

## **NYSERDA**

### **Cleaner Greener Communities / Climate Smart Communities Regional Level GHG Reporting Template**

#### **Instructions**

Please use this template to report summary regional GHG inventories to NYSERDA as part of your final deliverables for the regional GHG inventory. Fill it out and rename the sheet "**REDC\_NAME.CGC Final GHG Inventory.2010.xlsx**".

In this template there are two tabs, "Emissions by Source" and the "Roll Up Report". Emissions by Source shows all direct and indirect emissions sources considered by the GHG Working Group for inclusion in the inventory, and the Roll Up Report reflects the consensus decision for which sources are to be included when totaling the regions GHG inventory into a single number. The final submission should have the two tabs for the REDC in total, and two additional tabs for each county separately. For county tab names, please rename "REDC" to the name of the county.

We understand each region will have its own custom way of managing data and calculations so please cut and paste summary results from your own data sheets into this template. Although you may create dynamic links to this template from your analysis sheets when filling it out, please submit this template without these links.

Protocol Compliance Statements. In the REDC level tabs only, please fill in Columns P through R, and indicate if your methods adhered to methods in Column O that summarize NY GHG Working Group consensus decisions with "Rec" standing for the recommended methods and "Alt" standing for an acceptable alternative methods. It is not required that all methods adhere to the recommended or alternate methods, but please indicate any deviations, justifications, findings, or recommendations you have for additional methods to consider. It may help you to select Columns O-P and choose the "wrap text" format to help you read the methods.

Please Fill in the Summary Table on the Cover Sheet tab to the right at the conclusion of filling out these data sheets. You may dynamically link these numbers to the other sheets in this template.

Color Coding- in general a Green cell requires a value or entry, a white cell is optional.

Reporting Region	Finger Lakes
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REDC Emissions Summary CO2e Roll Up Numbers (MTCDE of MTCO2e)	Population	MTCO2e per capita
Genesee	60,079	18.91
Livingston	65,393	14.11
Monroe	744,344	12.06
Ontario	107,931	16.96
Orleans	42,883	9.94
Seneca	35,251	15.65
Wayne	93,772	9.86
Wyoming	42,155	23.47
Yates	25,348	14.20
<b>REDC in Total</b>	<b>1,217,156</b>	<b>13.24</b>
<b>REDC in Total</b>	<b>16,119,918</b>	

**REDC Emissions By Source and Sector  
Year: 2010**

REDC / County Name **Finger Lakes**

**Color Code**  
 REQUIRED, though some data may be zero or considered to small to count  
 OPTIONAL, not included in Gross Total  
 DO NOT Report Data in these cells

Reporting Template CGC. Emissions in MTCO2e (MTCO2e)					Rolled Up?	Related GHG Metrics / Activity Data			
		Scope 1	Scope 2	Scope 3		Biogenic	Metric	Unit	Value
<b>Built Environment</b>		<b>Residential Energy Consumption</b>							
FL Electricity Consumption	Electricity / Steam		1,003,997			Yes	Consumption	MMBTU	15,093,554
FL Direct Residential Fuel Consumption	Natural Gas	2,457,416				Yes	Consumption	MMBTU	46,303,439
FL Direct Residential Fuel Consumption	Propane / LPG	205,344				Yes	Consumption	MMBTU	3,247,626
FL Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	216,103				Yes	Consumption	MMBTU	2,912,087
FL Direct Residential Fuel Consumption	Wood	10,565			502,028	Yes	Consumption	MMBTU	5,352,108
		<b>Commercial Energy Consumption</b>							
FL Electricity Consumption	Electricity / Steam		964,950			Yes	Consumption	MMBTU	14,506,538
FL Commercial Direct Fuel Consumption	Natural Gas	1,592,903				Yes	Consumption	MMBTU	30,013,998
FL Commercial Direct Fuel Consumption	Propane / LPG	52,185				Yes	Consumption	MMBTU	825,329
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	141,697				Yes	Consumption	MMBTU	1,909,428
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	1,275				Yes	Consumption	MMBTU	12,404
FL Commercial Direct Fuel Consumption	Wood	2,269			107,827	Yes	Consumption	MMBTU	1,149,538
		<b>Industrial Energy Consumption</b>							
FL Electricity Consumption	Electricity / Steam		569,720			Yes	Consumption	MMBTU	8,564,870
FL Industrial Title V Consumption	Natural Gas	280,745				Yes	Consumption	MMBTU	5,289,881
FL Industrial Title V Consumption	Propane / LPG	156				Yes	Consumption	MMBTU	2,459
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926				Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903				Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	196,030				Yes	Consumption	MMBTU	2,082,610
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>		<b>Energy Generation and Supply</b>							
FL Elec Generation GHG Analysis	Coal	1,535,272				No	Generation	MMBTU	15,706,588
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	92,952				No	Generation	MMBTU	1,751,439
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	2,227				No	Generation	MMBTU	30,014
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417				No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	854			169,315	No	MSW Combusted	MMBTU	3,251,672
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							7,331,091
FL Electricity Consumption	Electricity T/D Losses		147,750			Yes	Losses	MMBTU	2,221,201
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	615,180				Yes	Losses	MMBTU	-
FL Electricity Consumption	Use of SF6 in the Utility Industry	33,983				Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>		<b>Industrial Processes</b>							
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	37,292				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>		<b>Product Use (Ozone Depleting Substances)</b>							
FL Industrial Sources	All Refrigerants- except SF6		278,673			Yes			

<b>Transportation Energy</b>	<b>On-road</b>									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	4,273,549			310,163	Yes	Consumption	MMBTU	65,172,504	
FL Emission Summary - Onroad	Diesel	771,313				Yes	Consumption	MMBTU	10,530,485	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	<b>Rail</b>									
FL Emission Summary - Rail	Diesel	105,505				Yes	Consumption	MMBTU	1,421,471	
FL Emission Summary - Rail	Coal Consumption	7				Yes	Consumption	MMBTU	280	
FL Emission Summary - Rail	Electric									
	<b>Marine</b>									
FL Emission Summary - Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary - Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Com Marine	Residual Fuels	16,434				Yes	Consumption	MMBTU	218,101	
	<b>Air</b>									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	47,122				No	Consumption	MMBTU	660,343	
	<b>Off-road Mobile</b>									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	772,613				Yes	Consumption	MMBTU	10,835,100	
<b>Waste Management</b>	<b>Solid Waste Management</b>									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	596,684	326,347	201,744		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	1,016,144	
Not Reported	MSW Incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	3,089,899	
	<b>Sewage Treatment</b>						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	120,000				Yes	MSW Incinerated in Boundar	Tonnes	-	
<b>Agriculture</b>	<b>Livestock</b>									
GHF_FL_Agriculture	Enteric Fermentation	713,507				Yes				
GHF_FL_Agriculture	Manure management	137,649				Yes				
	<b>Crop Production and Soil Management</b>									
GHF_FL_Agriculture	Use of Fertilizer	61,934				Yes				
Not Reported	Crop Residue Incineration					No				
<b>Land Use and Forestry</b>										
GHG_FL_Forest	Urban Forest Annual Reserve	251,202				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	173,110,876				No				
<b>Grand Totals</b>	<b>Gross Totals</b>	13,107,154	2,686,417	326,347	1,291,077				16,119,918	
	Total with Aircraft	13,154,277	2,686,417	326,347	1,291,077				16,167,041	
	Net Totals									

Note: Red text represents text added to original template to provide additional information or clarification

Protocol Compliance Report		
Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence	
	Yes	No
		Brief Description of Method and Issues:
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X	Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Siz	X	Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X	Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X	Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X	Recommended method used
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X	Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended metho	X	Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X	Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X	Recommended method used: includes all Fuel Oil
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X	All fuel oil included in Row 24 totals
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X	Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X	Recommended method used
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X	Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.	X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.	X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
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(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, CH4 and N2 Emissions required to be reported to Scope 1	X	EIA 923 database used: none to report
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on <a href="http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html">http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html</a> . All CH4 and N2O shall be reported under required Scope 1.	X	EIA 923 database used
(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using region EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X	Alternative method used as stated
(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.	X	Alternative method used as stated
(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSERDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X	Based on conversations with P Groth and J Yeinger, used national 2010 emission inventory total (alternative method)
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X	Recommended method used

(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggle). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggle) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X	Recommended method used
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggle). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggle) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X	Recommended method used
Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported ; Scope 1, and 85% as ethanol to be reported as optional biogenic.	X	Not available
Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X	Not available
Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X	Not available
Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nysdera 2002 estimates of Diesel consumption by county directly.	X	Alternative method used
Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X	Recommended method used Nothing to report
Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wiggle). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X X X	Recreational boating included in non-road data using NONROAD modeling CO2 emissions calculated by multiplying EPA estimated annual SO2 emission rate by ratio of CO2 to SO2 emissions for applicable fuel.
Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDMS, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X	Scope 1 option, using EDMS. Totals are also included in GHG Inventory reporting as part of Sustainability Plan
Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wiggle) for all categories except small marine.	X	Recommended Method used as stated, but includes recreational marine
This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wiggle). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint. Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 a part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on <a href="http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html">http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html</a> . All CH4 and N2O shall be reported under required Scope 1	X X	Scope 1 reported as actual 2010 waste facility emissions reported (EPA MRR). Scope 3 calculated and reported as recommended, assuming an average 75% methane capture rate  None Reported
Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.	X	Based on conversations with P. Groth and J. Yeinger, used State Inventory Tool and regional population, allocated to county by population
(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X X X	Recommended method used Recommended method used None reported
Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator. (NCASI 2008) Use the	X	As stated  Baseline Total calculated using method recommended and reported for information, change is not reported or relevant to WG discussions
Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur i boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management.		
Value above MINUS and reported optional forestry sinks.		

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Finger Lakes**

**Color Code**

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
Report NO Data in cell

DRAFT Roll Up Report CGC Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	1,003,997	999,114	672	4,211			
	Natural Gas	2,457,416	2,455,008	972	1,435			
	Propane / LPG	205,344	204,535	205	604			
	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	215,378	183	542			
	Wood	10,565	-	3,597	6,968			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	964,950	960,257	646	4,047			
	Natural Gas	1,592,903	1,591,342	630	930			
	Propane / LPG	52,185	51,979	52	154			
	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	141,221	120	355			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	1,275	1,266	3	6			
	Wood	2,269	-	772	1,497			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	569,720	566,949	381	2,390			
	Natural Gas	280,745	280,470	111	164			
	Propane / LPG	156	155	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2			
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29			
	Coal	196,030	194,516	481	1,033			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	147,750	147,032	99	620			
	Natural Gas T/D Losses	615,180	-	615,180	-			
	Use of SF6 in the Utility Industry	33,983	-	-	-			33,983
	<b>Industrial Processes</b>							
	Cement Production	-	-	-	-			
	Glass Production	37,292	-	-	-			
	Iron and Steel Production	-	-	-	-			
	Ferroalloy Production	-	-	-	-			
	Aluminum Production	-	-	-	-			
	Paper and Pulp	-	-	-	-			
Limestone Use	-	-	-	-				
Soda Ash Use	-	-	-	-				
Semi-Conductor Manufacturing	-	-	-	-				
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	278,673	-	-	-			278,673	
<b>Transportation Energy</b>	<b>On-road ALL (Total reflects subtraction of ethanol)</b>							
	Motor Gasoline (E-10)	4,273,549	4,258,449	11,280	3,821			
	Diesel	771,313	768,758	1,899	655			
	Ethanol	-	-	-	-			
	Biodiesel	-	-	-	-			
	<b>Rail</b>							
	Diesel	105,505	105,151	264	90			
	Coal	7	7	0.02	0.01			
	<b>Marine</b>							
	Gasoline	-	-	-	-			
	Distillate	-	-	-	-			
	Residual Fuel Oil	16,434	16,379	41	14			
	<b>Off-road Mobile</b>							
	All Fuels (Diesel and Gasoline)	772,613	769,937	1,998	678			
<b>Waste Management</b>	<b>Solid Waste Management</b>							
	Landfill Methane from FOD of waste generated	326,347	-	326,347	-			
	MSW incineration (non grid connected)	-	-	-	-			
	<b>Sewage Treatment</b>							
Central WWTPs and Septic Systems (Total reflects rounding)	120,000	-	80,000	40,000				
<b>Agriculture</b>	<b>Livestock</b>							
	Enteric Fermentation	713,507	-	713,507	-			
	Manure management	137,649	-	114,656	22,994			
	<b>Crop Production and Soil Management</b>							
	Use of Fertilizer	61,934	-	-	61,934			
Crop Residue Incineration	-	-	-	-				
<b>Grand Totals</b>	<b>16,119,918</b>	<b>13,740,690</b>	<b>1,874,107</b>	<b>155,173</b>	<b>-</b>	<b>278,673</b>	<b>33,983</b>	

Note: Red text represents text added to original template to provide additional information or clarification





Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	13,755				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	401,644		29,150		Yes	Consumption	MMBTU	6,125,147
FL Emission Summary - Onroad	Diesel	101,372				Yes	Consumption	MMBTU	1,366,032
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	27,489				Yes	Consumption	MMBTU	370,427
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	1,860				No	Consumption	MMBTU	26,085
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	46,907				Yes	Consumption	MMBTU	651,759
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region								
FL Waste		283,751	9,404	9,958		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	29,281
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	729,041
	<b>Sewage Treatment</b>								
FL Waste water	Central WWTPs and Septic Systems	4,660				Yes	MSW Sent for Incineration	Tonnes	-
	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	107,337				Yes	MSW incinerated in Bounda	Tonnes	-
GHF_FL_Agriculture	Manure management	21,478				Yes			
	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	8,082				Yes			
Not Reported	Crop Residue Incineration					No			
	<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	6,456				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	18,521,295				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	1,028,832	97,845	9,404	87,438	1,136,082			
	Total with Aircraft	1,030,693	97,845	9,404	87,438	1,137,942			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Genesee County**

**Color Code**

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	38,926	38,737	26	163			
	Natural Gas	100,316	100,218	40	59			
	Propane / LPG	18,666	18,593	19	55			
	Distillate Fuel Oil (#1, #2, Kerosene)	21,679	21,607	18	54			
	Wood	811	-	276	535			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	21,105	21,002	14	89			
	Natural Gas	60,681	60,622	24	35			
	Propane / LPG	5,473	5,451	5	16			
	Distillate Fuel Oil (#1, #2, Kerosene)	15,613	15,561	13	39			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	97	96	0	0			
	Wood	206	-	70	136			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	32,433	32,275	22	136			
	Natural Gas	40,225	40,185	16	23			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	5,381	5,355	4	23			
	Natural Gas T/D Losses	31,103		31,103				
	Use of SF6 in the Utility Industry	1,238						1,238
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Alloy Production							
	Aluminum Production							
	Paper and Pulp							
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	13,755						13,755	
<b>Transportation Energy</b>								
<b>On-road ALL (Total reflects subtraction of ethanol)</b>								
Motor Gasoline (E-10)	401,644	400,224	1,060	359				
Diesel	101,372	101,032	254	86				
Ethanol								
Biodiesel								
<b>Rail</b>								
Diesel	27,489	27,397	69	23				
Coal								
<b>Marine</b>								
Gasoline								
Distillate	-	-	-	-				
Residual Fuel Oil	-	-	-	-				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	46,907	46,746	120	41				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	9,404	-	9,404	-				
MSW incineration (non grid connected)								
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	4,660		3,107	1,553				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	107,337		107,337					
Manure management	21,478		17,777	3,701				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	8,082			8,082				
Crop Residue Incineration								
<b>Grand Totals</b>	<b>1,136,082</b>	<b>935,101</b>	<b>170,779</b>	<b>15,209</b>	<b>-</b>	<b>13,755</b>	<b>1,238</b>	

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Livingston**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
	Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>								
<b>Residential Energy Consumption</b>								
FL Electricity Consumption		50,404			Yes	Consumption	MMBTU	757,749
FL Direct Residential Fuel Consumption	86,966				Yes	Consumption	MMBTU	1,638,642
FL Direct Residential Fuel Consumption	24,173				Yes	Consumption	MMBTU	382,302
FL Direct Residential Fuel Consumption	17,794				Yes	Consumption	MMBTU	239,781
FL Direct Residential Fuel Consumption	1,530			72,693	Yes	Consumption	MMBTU	774,980
<b>Commercial Energy Consumption</b>								
FL Electricity Consumption		31,100			Yes	Consumption	MMBTU	467,546
FL Commercial Direct Fuel Consumption	43,812				Yes	Consumption	MMBTU	825,521
FL Commercial Direct Fuel Consumption	5,902				Yes	Consumption	MMBTU	93,350
FL Commercial Direct Fuel Consumption	10,673				Yes	Consumption	MMBTU	143,821
FL Commercial Direct Fuel Consumption	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	112				Yes	Consumption	MMBTU	1,090
FL Commercial Direct Fuel Consumption	325			15,422	Yes	Consumption	MMBTU	164,413
<b>Industrial Energy Consumption</b>								
FL Electricity Consumption		33,180			Yes	Consumption	MMBTU	498,811
FL Industrial Title V Consumption	9,146				Yes	Consumption	MMBTU	172,326
FL Industrial Title V Consumption	40				Yes	Consumption	MMBTU	634
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>								
FL Elec Generation GHG Analysis	Coal	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-			No	MSW Combusted	MMBTU	-
FL Electricity Consumption	Electricity T/D Losses		6,675		Yes	Losses	MMBTU	100,343
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	19,700			Yes	Losses	MMBTU	-
FL Electricity Consumption	Use of SF6 in the Utility Industry	1,535			Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>								
Not Reported	Cement Production				Yes			
Not Reported	Iron and Steel Production				Yes			
Not Reported	Ferrous Alloy Production				Yes			
Not Reported	Aluminum Production				Yes			
Not Reported	Paper and Pulp				Yes			

Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	14,972				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	289,011		20,976		Yes	Consumption	MMBTU	4,407,479
FL Emission Summary - Onroad	Diesel	77,407				Yes	Consumption	MMBTU	1,043,088
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	2,698				Yes	Consumption	MMBTU	36,354
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	1,252				No	Consumption	MMBTU	17,523
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	45,099				Yes	Consumption	MMBTU	624,813
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	11,704	10,839		Yes - ONLY Scope 3			
FL Waste	MSW incineration (non grid connected)					Yes	MSW+CD Generated	Tonnes	36,442
Not Reported							MSW+CD Processed	Tonnes	-
	<b>Sewage Treatment</b>						MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	3,400				Yes	MSW incinerated in Bounda	Tonnes	-
<b>Agriculture</b>	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	105,152				Yes			
GHF_FL_Agriculture	Manure management	21,311				Yes			
GHF_FL_Agriculture	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	8,966				Yes			
Not Reported	Crop Residue Incineration					No			
<b>Land Use and Forestry</b>									
GHG_FL_Forest	Urban Forest Annual Reserve	9,040				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	22,179,890				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	789,724	121,359	11,704	119,930	922,787			
	Total with Aircraft	790,976	121,359	11,704	119,930	924,039			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Livingston County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	50,404	50,159	34	211			
	Natural Gas	86,966	86,881	34	51			
	Propane / LPG	24,173	24,077	24	71			
	Distillate Fuel Oil (#1, #2, Kerosene)	17,794	17,734	15	45			
	Wood	1,530	-	521	1,009			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	31,100	30,949	21	130			
	Natural Gas	43,812	43,769	17	26			
	Propane / LPG	5,902	5,879	6	17			
	Distillate Fuel Oil (#1, #2, Kerosene)	10,673	10,637	9	27			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	112	111	0	1			
	Wood	325	-	110	214			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	33,180	33,019	22	139			
	Natural Gas	9,146	9,137	4	5			
	Propane / LPG	40	40	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	6,675	6,642	4	28			
	Natural Gas T/D Losses	19,700		19,700				
	Use of SF6 in the Utility Industry	1,535						1,535
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Alloy Production							
	Aluminum Production							
Paper and Pulp								
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	14,972						14,972	
<b>Transportation Energy</b>								
<b>On-road ALL (Total reflects subtraction of ethanol)</b>								
Motor Gasoline (E-10)	289,011	287,990	763	258				
Diesel	77,407	77,147	194	66				
Ethanol								
Biodiesel								
<b>Rail</b>								
Diesel	2,698	2,689	7	2				
Coal								
<b>Marine</b>								
Gasoline								
Distillate	-	-	-	-				
Residual Fuel Oil	-	-	-	-				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	45,099	44,944	116	39				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	11,704	-	11,704	-				
MSW incineration (non grid connected)								
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	3,400		2,267	1,133				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	105,152		105,152					
Manure management	21,311		17,637	3,674				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	8,966			8,966				
Crop Residue Incineration								
<b>Grand Totals</b>	<b>922,787</b>	<b>731,804</b>	<b>158,362</b>	<b>16,113</b>	<b>-</b>	<b>14,972</b>	<b>1,535</b>	

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector  
Year: 2010**

REDC / County Name **Monroe**

Color Code	REQUIRED, though some data may be zero or considered small to count
Green	OPTIONAL
Grey	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE				Biogenic	Rolled Up?	Related GHG Metrics / Activity Data		
Scope 1	Scope 2	Scope 3	Metric			Unit	Value	
<b>Built Environment</b>		<b>Residential Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		583,141		Yes	Consumption	MMBTU	8,766,622
FL Direct Residential Fuel Consumption	Natural Gas	1,767,355			Yes	Consumption	MMBTU	33,301,091
FL Direct Residential Fuel Consumption	Propane / LPG	32,214			Yes	Consumption	MMBTU	509,489
FL Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	60,502			Yes	Consumption	MMBTU	815,296
FL Direct Residential Fuel Consumption	Wood	1,345		63,906	Yes	Consumption	MMBTU	681,303
		<b>Commercial Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		630,471		Yes	Consumption	MMBTU	9,478,160
FL Commercial Direct Fuel Consumption	Natural Gas	1,231,571			Yes	Consumption	MMBTU	23,205,657
FL Commercial Direct Fuel Consumption	Propane / LPG	10,881			Yes	Consumption	MMBTU	172,082
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	50,196			Yes	Consumption	MMBTU	676,416
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-			Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	77			Yes	Consumption	MMBTU	747
FL Commercial Direct Fuel Consumption	Wood	395		18,753	Yes	Consumption	MMBTU	199,930
		<b>Industrial Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		305,578		Yes	Consumption	MMBTU	4,593,902
FL Industrial Title V Consumption	Natural Gas	84,189			Yes	Consumption	MMBTU	1,586,308
FL Industrial Title V Consumption	Propane / LPG	5			Yes	Consumption	MMBTU	85
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926			Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903			Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	93,268			Yes	Consumption	MMBTU	990,874
FL Industrial Title V Consumption	Wood	-			Yes	Consumption	MMBTU	-
		<b>Energy Generation and Supply</b>						
FL Elec Generation GHG Analysis	Coal	960,843			No	Generation	MMBTU	9,829,896
FL Elec Generation GHG Analysis	Nuclear	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	52,696			No	Generation	MMBTU	992,917
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	1,627			No	Generation	MMBTU	21,918
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417			No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	285		56,563	No	MSW Combusted	MMBTU	1,086,281
FL Elec Generation GHG Analysis	Other Wind and Hydro	-			-	Generation	MMBTU	339,986
FL Electricity Consumption	Electricity T/D Losses		88,417		Yes	Losses	MMBTU	1,329,211
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	435,860			Yes	Losses	MMBTU	-
FL Electricity Consumption	Use of SF6 in the Utility Industry	20,336			Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>		<b>Industrial Processes</b>						
Not Reported	Cement Production				Yes			
Not Reported	Iron and Steel Production				Yes			
Not Reported	Ferroalloy Production				Yes			
Not Reported	Aluminum Production				Yes			
Not Reported	Paper and Pulp				Yes			
Not Reported	Limestone Use				Yes			
Not Reported	Soda Ash Use				Yes			
Not Reported	Semi-Conductor Manufacturing				Yes			
FL Industrial Sources	Glass Production				Yes			
Not Reported	Chemical Manufacturing				Yes			
<b>Product Use (Ozone Depleting Substances)</b>		<b>Product Use (Ozone Depleting Substances)</b>						
FL Industrial Sources	All Refrigerants- except SF6	170,421			Yes			
<b>Transportation Energy</b>		<b>On-road</b>						
FL Emission Summary - Onroad	Motor Gasoline (E-10)	2,319,392		168,335	Yes	Consumption	MMBTU	35,371,200
FL Emission Summary - Onroad	Diesel	354,771			Yes	Consumption	MMBTU	4,780,696
Not Reported	Ethanol (E-85)				No	Consumption	MMBTU	-
Not Reported	Biodiesel				No	Consumption	MMBTU	-
Not Reported	Electricity Consumption				No	Consumption	MMBTU	-
		<b>Rail</b>						
FL Emission Summary - Rail	Diesel	38,049			Yes	Consumption	MMBTU	512,727
FL Emission Summary - Rail	Coal Consumption				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric							
		<b>Marine</b>						
FL Emission Summary - Com Marine	Gasoline				Yes	Consumption	MMBTU	-
FL Emission Summary - Com Marine	Distillate Fuels				Yes	Consumption	MMBTU	-
FL Emission Summary - Com Marine	Residual Fuels	9,247			Yes	Consumption	MMBTU	122,719
		<b>Air</b>						
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	41,295			No	Consumption	MMBTU	578,610
		<b>Off-road Mobile</b>						
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	361,546			Yes	Consumption	MMBTU	5,108,287
<b>Waste Management</b>		<b>Solid Waste Management</b>						
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	208,035	123,375	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	647,758
Not Reported	MSW incineration (non grid connected)				Yes	MSW+CD Processed	Tonnes	-
FL Waste water	Sewage Treatment	86,175			Yes	MSW Sent for Incineration	Tonnes	-
	Central WWTPs and Septic Systems				Yes	MSW Incinerated in Boundar	Tonnes	-
<b>Agriculture</b>		<b>Livestock</b>						
GHF_FL_Agriculture	Enteric Fermentation	14,562			Yes			
GHF_FL_Agriculture	Manure management	2,150			Yes			
		<b>Crop Production and Soil Management</b>						
GHF_FL_Agriculture	Use of Fertilizer	5,697			Yes			
Not Reported	Crop Residue Incineration				No			
<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	184,750			No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	19,500,731			No			
<b>Grand Totals</b>		<b>Gross Totals</b>						
		7,163,032	1,607,606	208,035	430,933			8,978,673
	<b>Total with Aircraft</b>	7,204,327	1,607,606	208,035	430,933			9,019,969
	<b>Net Totals</b>							

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Monroe County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	583,141	580,304	390	2,446			
	Natural Gas	1,767,355	1,765,624	699	1,032			
	Propane / LPG	32,214	32,088	32	95			
	Distillate Fuel Oil (#1, #2, Kerosene)	60,502	60,299	51	152			
	Wood	1,345	-	458	887			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	630,471	627,404	422	2,644			
	Natural Gas	1,231,571	1,230,364	487	719			
	Propane / LPG	10,881	10,838	11	32			
	Distillate Fuel Oil (#1, #2, Kerosene)	50,196	50,028	43	126			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	77	76	0	0			
	Wood	395	-	134	260			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	305,578	304,092	204	1,282			
	Natural Gas	84,189	84,106	33	49			
	Propane / LPG	5	5	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2			
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29			
	Coal	93,268	92,548	229	491			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	88,417	87,987	59	371			
	Natural Gas T/D Losses	435,860		435,860				
	Use of SF6 in the Utility Industry	20,336						20,336
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Production							
Aluminum Production								
Paper and Pulp								
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	170,421						170,421	
<b>Transportation Energy</b>	<b>On-road ALL (Total reflects subtraction of ethanol)</b>							
	Motor Gasoline (E-10)	2,319,392	2,311,196	6,122	2,074			
	Diesel	354,771	353,580	889	301			
	Ethanol							
	Biodiesel							
	<b>Rail</b>							
	Diesel	38,049	37,921	95	32			
	Coal							
	<b>Marine</b>							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	9,247	9,216	23	8			
	<b>Off-road Mobile</b>							
All Fuels (Diesel and Gasoline)	361,546	360,290	938	319				
<b>Waste Management</b>	<b>Solid Waste Management</b>							
	Landfill Methane from FOD of waste generated	208,035	-	208,035	-			
	MSW incineration (non grid connected)							
	<b>Sewage Treatment</b>							
Central WWTPs and Septic Systems (Total reflects rounding)	86,175		57,450	28,725				
<b>Agriculture</b>	<b>Livestock</b>							
	Enteric Fermentation	14,562		14,562				
	Manure management	2,150		1,816	334			
	<b>Crop Production and Soil Management</b>							
	Use of Fertilizer	5,697			5,697			
Crop Residue Incineration								
<b>Grand Totals</b>		8,978,673	8,010,753	729,055	48,109	-	170,421	20,336

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Ontario**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
	Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>								
<b>Residential Energy Consumption</b>								
FL Electricity Consumption		100,919			Yes	Consumption	MMBTU	1,517,168
FL Direct Residential Fuel Consumption	187,569				Yes	Consumption	MMBTU	3,534,230
FL Direct Residential Fuel Consumption	32,884				Yes	Consumption	MMBTU	520,078
FL Direct Residential Fuel Consumption	29,308				Yes	Consumption	MMBTU	394,945
FL Direct Residential Fuel Consumption	1,428			67,876	Yes	Consumption	MMBTU	723,622
<b>Commercial Energy Consumption</b>								
FL Electricity Consumption		109,174			Yes	Consumption	MMBTU	1,641,268
FL Commercial Direct Fuel Consumption	131,266				Yes	Consumption	MMBTU	2,473,364
FL Commercial Direct Fuel Consumption	11,154				Yes	Consumption	MMBTU	176,412
FL Commercial Direct Fuel Consumption	24,420				Yes	Consumption	MMBTU	329,073
FL Commercial Direct Fuel Consumption	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	283				Yes	Consumption	MMBTU	2,755
FL Commercial Direct Fuel Consumption	421			20,004	Yes	Consumption	MMBTU	213,260
<b>Industrial Energy Consumption</b>								
FL Electricity Consumption		63,660			Yes	Consumption	MMBTU	957,024
FL Industrial Title V Consumption	120,837				Yes	Consumption	MMBTU	2,276,846
FL Industrial Title V Consumption	110				Yes	Consumption	MMBTU	1,741
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>								
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	146			28,867	No	MSW Combusted	MMBTU	554,396
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Electricity Consumption		15,932			Yes	Losses	MMBTU	239,520
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	61,902				Yes	Losses	MMBTU	-
FL Electricity Consumption	3,664				Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>								
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			



Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	37,292				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	24,711				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	516,572		37,491		Yes	Consumption	MMBTU	7,877,822
FL Emission Summary - Onroad	Diesel	106,684				Yes	Consumption	MMBTU	1,438,072
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	1,036				Yes	Consumption	MMBTU	13,962
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	459				No	Consumption	MMBTU	6,450
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	79,324				Yes	Consumption	MMBTU	1,105,904
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	37,122	17,890		Yes - ONLY Scope 3			115,586
FL Waste	MSW incineration (non grid connected)					Yes	MSW+CD Generated	Tonnes	-
Not Reported							MSW+CD Processed	Tonnes	-
	<b>Sewage Treatment</b>						MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	8,123				Yes	MSW incinerated in Bounda	Tonnes	-
	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	97,147				Yes			
GHF_FL_Agriculture	Manure management	19,073				Yes			
	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	8,421				Yes			
Not Reported	Crop Residue Incineration					No			
	<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	10,361				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	29,726,656				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	1,503,632	289,686	37,122	172,128	1,830,439			
	Total with Aircraft	1,504,090	289,686	37,122	172,128	1,830,898			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Ontario County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6	
<b>Built Environment</b>	<b>Residential Energy Consumption</b>								
	Electricity / Steam	100,919	100,429	68	423				
	Natural Gas	187,569	187,385	74	110				
	Propane / LPG	32,884	32,755	33	97				
	Distillate Fuel Oil (#1, #2, Kerosene)	29,308	29,210	25	73				
	Wood	1,428	-	486	942				
	<b>Commercial Energy Consumption</b>								
	Electricity / Steam	109,174	108,643	73	458				
	Natural Gas	131,266	131,138	52	77				
	Propane / LPG	11,154	11,110	11	33				
	Distillate Fuel Oil (#1, #2, Kerosene)	24,420	24,338	21	61				
	Residual Fuel Oil (#4 and #6)	-	-	-	-				
	Coal	283	281	1	1				
	Wood	421	-	143	278				
	<b>Industrial Energy Consumption</b>								
	Electricity / Steam	63,660	63,350	43	267				
	Natural Gas	120,837	120,718	48	71				
	Propane / LPG	110	110	0	0				
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-				
	Residual Fuel Oil (#4 and #6)	-	-	-	-				
	Coal	-	-	-	-				
	Wood	-	-	-	-				
	<b>Energy Generation and Supply</b>								
	Electricity T/D Losses	15,932	15,855	11	67				
	Natural Gas T/D Losses	61,902		61,902					
	Use of SF6 in the Utility Industry	3,664						3,664	
	<b>Industrial Processes</b>								
	Cement Production								
	Glass Production	37,292							
	Iron and Steel Production								
	Ferrous Alloy Production								
	Aluminum Production								
	Paper and Pulp								
	Limestone Use								
	Soda Ash Use								
	Semi-Conductor Manufacturing								
	<b>Product Use (ODS Substitutes)</b>								
	All Refrigerants- except utility SF6	24,711						24,711	
	<b>Transportation Energy</b>	<b>On-road ALL (Total reflects subtraction of ethanol)</b>							
		Motor Gasoline (E-10)	516,572	514,746	1,363	462			
		Diesel	106,684	106,360	234	91			
		Ethanol							
		Biodiesel							
		<b>Rail</b>							
		Diesel	1,036	1,033	3	1			
Coal									
<b>Marine</b>									
Gasoline									
Distillate		-	-	-	-				
Residual Fuel Oil		-	-	-	-				
<b>Off-road Mobile</b>									
All Fuels (Diesel and Gasoline)		79,324	79,050	204	69				
<b>Waste Management</b>		<b>Solid Waste Management</b>							
	Landfill Methane from FOD of waste generated	37,122	-	37,122	-				
	MSW incineration (non grid connected)								
	<b>Sewage Treatment</b>								
	Central WWTPs and Septic Systems (Total reflects rounding)	8,123		5,415	2,708				
<b>Agriculture</b>	<b>Livestock</b>								
	Enteric Fermentation	97,147		97,147					
	Manure management	19,073		15,804	3,269				
	<b>Crop Production and Soil Management</b>								
	Use of Fertilizer	8,421			8,421				
Crop Residue Incineration									
<b>Grand Totals</b>	<b>1,830,439</b>	<b>1,526,511</b>	<b>220,283</b>	<b>17,978</b>	<b>-</b>	<b>24,711</b>	<b>3,664</b>		

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Orleans**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
	Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>								
<b>Residential Energy Consumption</b>								
FL Electricity Consumption		29,567			Yes	Consumption	MMBTU	444,492
FL Direct Residential Fuel Consumption	49,121				Yes	Consumption	MMBTU	925,549
FL Direct Residential Fuel Consumption	19,791				Yes	Consumption	MMBTU	313,012
FL Direct Residential Fuel Consumption	19,487				Yes	Consumption	MMBTU	262,595
FL Direct Residential Fuel Consumption	1,037			49,257	Yes	Consumption	MMBTU	525,124
<b>Commercial Energy Consumption</b>								
FL Electricity Consumption		9,501			Yes	Consumption	MMBTU	142,835
FL Commercial Direct Fuel Consumption	17,789				Yes	Consumption	MMBTU	335,187
FL Commercial Direct Fuel Consumption	3,474				Yes	Consumption	MMBTU	54,943
FL Commercial Direct Fuel Consumption	8,402				Yes	Consumption	MMBTU	113,224
FL Commercial Direct Fuel Consumption	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	23				Yes	Consumption	MMBTU	227
FL Commercial Direct Fuel Consumption	158			7,512	Yes	Consumption	MMBTU	80,085
<b>Industrial Energy Consumption</b>								
FL Electricity Consumption		20,395			Yes	Consumption	MMBTU	306,603
FL Industrial Title V Consumption	8,011				Yes	Consumption	MMBTU	150,951
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>								
FL Elec Generation GHG Analysis	Coal	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-						202,204
FL Electricity Consumption	Electricity T/D Losses		3,461		Yes	Losses	MMBTU	52,027
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	10,548			Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	796			Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>								
Not Reported	Cement Production				Yes			
Not Reported	Iron and Steel Production				Yes			
Not Reported	Ferrous Alloy Production				Yes			
Not Reported	Aluminum Production				Yes			
Not Reported	Paper and Pulp				Yes			

Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	9,818				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	108,783		7,895		Yes	Consumption	MMBTU	1,658,969
FL Emission Summary - Onroad	Diesel	22,121				Yes	Consumption	MMBTU	298,095
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	184				Yes	Consumption	MMBTU	2,479
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	7,187				Yes	Consumption	MMBTU	95,382
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	138				No	Consumption	MMBTU	1,952
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	36,869				Yes	Consumption	MMBTU	512,632
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region		6,935	7,108					
FL Waste	MSW incineration (non grid connected)	134,789				Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	21,593
Not Reported						Yes	MSW+CD Processed	Tonnes	742,837
	<b>Sewage Treatment</b>								
FL Waste water	Central WWTPs and Septic Systems	6,662				Yes	MSW Sent for Incineration	Tonnes	-
	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	17,831				Yes	MSW incinerated in Bounda	Tonnes	-
GHF_FL_Agriculture	Manure management	2,599				Yes			
	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	5,616				Yes			
Not Reported	Crop Residue Incineration					No			
	<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	7,679				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	10,336,977				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	356,309	62,923	6,935	71,772				426,168
	Total with Aircraft	356,448	62,923	6,935	71,772				426,306
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Orleans County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	29,567	29,423	20	124			
	Natural Gas	49,121	49,073	19	29			
	Propane / LPG	19,791	19,714	20	58			
	Distillate Fuel Oil (#1, #2, Kerosene)	19,487	19,422	17	49			
	Wood	1,037	-	353	684			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	9,501	9,455	6	40			
	Natural Gas	17,789	17,772	7	10			
	Propane / LPG	3,474	3,460	3	10			
	Distillate Fuel Oil (#1, #2, Kerosene)	8,402	8,374	7	21			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	23	23	0	0			
	Wood	158	-	54	104			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	20,395	20,295	14	86			
	Natural Gas	8,011	8,003	3	5			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	3,461	3,444	2	15			
	Natural Gas T/D Losses	10,548		10,548				
	Use of SF6 in the Utility Industry	796						796
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Alloy Production							
	Aluminum Production							
Paper and Pulp								
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	9,818						9,818	
<b>Transportation Energy</b>								
<b>On-road ALL (Total reflects subtraction of ethanol)</b>								
Motor Gasoline (E-10)	108,783	108,399	287	97				
Diesel	22,121	22,047	55	19				
Ethanol								
Biodiesel								
<b>Rail</b>								
Diesel	184	183	0	0				
Coal								
<b>Marine</b>								
Gasoline								
Distillate	-	-	-	-				
Residual Fuel Oil	7,187	7,163	18	6				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	36,869	36,741	95	32				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	6,935	-	6,935	-				
MSW incineration (non grid connected)								
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	6,662		4,441	2,221				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	17,831		17,831					
Manure management	2,599		2,192	407				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	5,616			5,616				
Crop Residue Incineration								
<b>Grand Totals</b>	<b>426,168</b>	<b>362,992</b>	<b>42,930</b>	<b>9,632</b>	<b>-</b>	<b>9,818</b>	<b>796</b>	

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Seneca**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
	Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>								
<b>Residential Energy Consumption</b>								
FL Electricity Consumption		31,853			Yes	Consumption	MMBTU	478,860
FL Direct Residential Fuel Consumption	43,270				Yes	Consumption	MMBTU	815,314
FL Direct Residential Fuel Consumption	18,484				Yes	Consumption	MMBTU	292,334
FL Direct Residential Fuel Consumption	12,823				Yes	Consumption	MMBTU	172,791
FL Direct Residential Fuel Consumption	427			20,277	Yes	Consumption	MMBTU	216,169
<b>Commercial Energy Consumption</b>								
FL Electricity Consumption		29,024			Yes	Consumption	MMBTU	436,326
FL Commercial Direct Fuel Consumption	18,880				Yes	Consumption	MMBTU	355,747
FL Commercial Direct Fuel Consumption	3,909				Yes	Consumption	MMBTU	61,825
FL Commercial Direct Fuel Consumption	6,661				Yes	Consumption	MMBTU	89,764
FL Commercial Direct Fuel Consumption	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	321				Yes	Consumption	MMBTU	3,119
FL Commercial Direct Fuel Consumption	78			3,726	Yes	Consumption	MMBTU	39,720
<b>Industrial Energy Consumption</b>								
FL Electricity Consumption		10,002			Yes	Consumption	MMBTU	150,364
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>								
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	423			83,885	No	MSW Combusted	MMBTU	1,610,995
FL Elec Generation GHG Analysis	-				No	Generation	MMBTU	-
FL Electricity Consumption		4,125			Yes	Losses	MMBTU	62,015
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	8,750				Yes	Losses	MMBTU	-
FL Electricity Consumption	753				Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>								
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			
Not Reported					Yes			

Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	8,071				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	168,910			12,259	Yes	Consumption	MMBTU	2,575,910
FL Emission Summary - Onroad	Diesel	38,377				Yes	Consumption	MMBTU	517,143
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	596				Yes	Consumption	MMBTU	8,034
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	267				No	Consumption	MMBTU	3,771
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	55,889				Yes	Consumption	MMBTU	779,111
<b>Waste Management</b>	<b>Solid Waste Management</b>								
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	6,775	5,843		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	21,095
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
	<b>Sewage Treatment</b>						MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	2,986				Yes	MSW incinerated in Bounda	Tonnes	-
	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	64,553				Yes			
GHF_FL_Agriculture	Manure management	10,340				Yes			
	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	5,712				Yes			
Not Reported	Crop Residue Incineration					No			
	<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	4,805				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	7,724,579				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	469,789	75,004	6,775	125,989	551,568			
	Total with Aircraft	470,056	75,004	6,775	125,989	551,835			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Seneca County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	31,853	31,698	21	134			
	Natural Gas	43,270	43,228	17	25			
	Propane / LPG	18,484	18,411	18	54			
	Distillate Fuel Oil (#1, #2, Kerosene)	12,823	12,780	11	32			
	Wood	427	-	145	281			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	29,024	28,882	19	122			
	Natural Gas	18,880	18,862	7	11			
	Propane / LPG	3,909	3,894	4	11			
	Distillate Fuel Oil (#1, #2, Kerosene)	6,661	6,639	6	17			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	321	318	1	2			
	Wood	78	-	27	52			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	10,002	9,953	7	42			
	Natural Gas	-	-	-	-			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	4,125	4,105	3	17			
	Natural Gas T/D Losses	8,750	-	8,750	-			
	Use of SF6 in the Utility Industry	753	-	-	-			753
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Alloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	<b>Product Use (ODS Substitutes)</b>							
	All Refrigerants- except utility SF6	8,071	-	-	-			8,071
	<b>Transportation Energy</b>							
	<b>On-road ALL (Total reflects subtraction of ethanol)</b>							
	Motor Gasoline (E-10)	168,910	168,313	446	151			
	Diesel	38,377	38,248	96	33			
	Ethanol							
	Biodiesel							
	<b>Rail</b>							
Diesel	596	594	1	1				
Coal								
<b>Marine</b>								
Gasoline								
Distillate	-	-	-	-				
Residual Fuel Oil	-	-	-	-				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	55,889	55,695	145	49				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	6,775	-	6,775	-				
MSW incineration (non grid connected)								
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	2,986	-	1,991	995				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	64,553	-	64,553	-				
Manure management	10,340	-	8,986	1,353				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	5,712	-	-	5,712				
Crop Residue Incineration								
<b>Grand Totals</b>	<b>551,568</b>	<b>441,621</b>	<b>92,029</b>	<b>9,094</b>	<b>-</b>	<b>8,071</b>	<b>753</b>	

Note: Red text represents text added to original template to provide additional information or clarification



**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Wayne**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3		Biogenic	Metric	Unit
<b>Built Environment</b>		<b>Residential Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		45,997			Consumption	MMBTU	691,490
FL Direct Residential Fuel Consumption	Natural Gas	145,548				Consumption	MMBTU	2,742,466
FL Direct Residential Fuel Consumption	Propane / LPG	28,985				Consumption	MMBTU	458,420
FL Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	34,232				Consumption	MMBTU	461,287
FL Direct Residential Fuel Consumption	Wood	1,692			80,378	Consumption	MMBTU	856,904
		<b>Commercial Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		26,550			Consumption	MMBTU	399,135
FL Commercial Direct Fuel Consumption	Natural Gas	55,006				Consumption	MMBTU	1,036,438
FL Commercial Direct Fuel Consumption	Propane / LPG	5,309				Consumption	MMBTU	83,971
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	15,403				Consumption	MMBTU	207,556
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	78				Consumption	MMBTU	760
FL Commercial Direct Fuel Consumption	Wood	269			12,792	Consumption	MMBTU	136,376
		<b>Industrial Energy Consumption</b>						
FL Electricity Consumption	Electricity / Steam		20,402			Consumption	MMBTU	306,712
FL Industrial Title V Consumption	Natural Gas	9,580				Consumption	MMBTU	-
FL Industrial Title V Consumption	Propane / LPG	-				Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>		<b>Energy Generation and Supply</b>						
FL Elec Generation GHG Analysis	Coal	-				Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				Generation	MMBTU	51,754,929
FL Elec Generation GHG Analysis	Natural Gas	-				Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-			-			-
FL Electricity Consumption	Electricity T/D Losses		5,410			Losses	MMBTU	81,325
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses		29,585			Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry		949			Consumption	MMBTU	-
<b>Industrial Processes</b>		<b>Industrial Processes</b>						
Not Reported	Cement Production							
Not Reported	Iron and Steel Production							
Not Reported	Ferrous Alloy Production							
Not Reported	Aluminum Production							
Not Reported	Paper and Pulp							

Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	21,469				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	265,959		19,303		Yes	Consumption	MMBTU	4,055,928
FL Emission Summary - Onroad	Diesel	27,253				Yes	Consumption	MMBTU	442,298
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	28,083				Yes	Consumption	MMBTU	378,425
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	526				No	Consumption	MMBTU	7,364
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	64,124				Yes	Consumption	MMBTU	897,883
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region								
FL Waste		178,143	34,819	15,543		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	108,417
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	1,618,021
	<b>Sewage Treatment</b>								
FL Waste water	Central WWTPs and Septic Systems	4,808				Yes	MSW Sent for Incineration	Tonnes	-
	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	39,678				Yes	MSW incinerated in Bounda	Tonnes	-
GHF_FL_Agriculture	Manure management	7,275				Yes			
	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	6,333				Yes			
Not Reported	Crop Residue Incineration					No			
	<b>Land Use and Forestry</b>								
GHG_FL_Forest	Urban Forest Annual Reserve	19,169				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	20,231,860				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	791,618	98,358	34,819	128,015				924,795
	Total with Aircraft	792,144	98,358	34,819	128,015				925,321
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Wayne County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	45,997	45,773	31	193			
	Natural Gas	145,548	145,406	58	85			
	Propane / LPG	28,985	28,871	29	85			
	Distillate Fuel Oil (#1, #2, Kerosene)	34,232	34,117	29	86			
	Wood	1,692	-	576	1,116			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	26,550	26,421	18	111			
	Natural Gas	55,006	54,952	22	32			
	Propane / LPG	5,309	5,289	5	16			
	Distillate Fuel Oil (#1, #2, Kerosene)	15,403	15,351	13	39			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	78	78	0	0			
	Wood	269	-	92	178			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	20,402	20,303	14	86			
	Natural Gas	9,580	9,571	4	6			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	5,410	5,383	4	23			
	Natural Gas T/D Losses	29,585		29,585				
	Use of SF6 in the Utility Industry	949						949
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferrous Alloy Production							
	Aluminum Production							
Paper and Pulp								
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	21,469						21,469	
<b>Transportation Energy</b>								
<b>On-road ALL (Total reflects subtraction of ethanol)</b>								
Motor Gasoline (E-10)	265,959	265,019	702	238				
Diesel	27,253	27,162	68	23				
Ethanol								
Biodiesel								
<b>Rail</b>								
Diesel	28,083	27,988	70	24				
Coal								
<b>Marine</b>								
Gasoline								
Distillate	-	-	-	-				
Residual Fuel Oil	-	-	-	-				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	64,124	63,902	166	56				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	34,819	-	34,819	-				
MSW incineration (non grid connected)								
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	4,808		3,205	1,603				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	39,678		39,678					
Manure management	7,275		6,125	1,149				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	6,333			6,333				
Crop Residue Incineration								
<b>Grand Totals</b>		924,795	775,584	115,312	11,481	-	21,469	949

Note: Red text represents text added to original template to provide additional information or clarification



Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	9,652				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	131,001		9,508		Yes	Consumption	MMBTU	1,997,798
FL Emission Summary - Onroad	Diesel	22,222				Yes	Consumption	MMBTU	360,648
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	6,281				Yes	Consumption	MMBTU	84,384
FL Emission Summary - Rail	Coal Consumption	7				Yes	Consumption	MMBTU	280
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	343				No	Consumption	MMBTU	4,835
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	42,643				Yes	Consumption	MMBTU	592,030
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	6,449	6,987		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	20,082
FL Waste	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
Not Reported							MSW Sent for Incineration	Tonnes	-
	<b>Sewage Treatment</b>						MSW incinerated in Bounda	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	2,102				Yes			
<b>Agriculture</b>	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	202,771				Yes			
GHF_FL_Agriculture	Manure management	41,772				Yes			
GHF_FL_Agriculture	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	8,699				Yes			
Not Reported	Crop Residue Incineration					No			
<b>Land Use and Forestry</b>									
GHG_FL_Forest	Urban Forest Annual Reserve	7,974				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	28,953,598				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	708,794	274,148	6,449	95,938	989,391			
	Total with Aircraft	709,137	274,148	6,449	95,938	989,734			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Wyoming County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
	CO2e	CO2	CH4	N2O	PFC	HFC	SF6	
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	91,616	91,171	61	384			
	Natural Gas	55,511	55,457	22	32			
	Propane / LPG	12,136	12,089	12	36			
	Distillate Fuel Oil (#1, #2, Kerosene)	11,463	11,424	10	29			
	Wood	1,401	-	477	924			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	99,474	98,990	67	417			
	Natural Gas	25,462	25,438	10	15			
	Propane / LPG	2,698	2,688	3	8			
	Distillate Fuel Oil (#1, #2, Kerosene)	6,260	6,239	5	16			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	198	196	0	1			
	Wood	271	-	92	179			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	67,979	67,649	45	285			
	Natural Gas	8,757	8,749	3	5			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	102,762	101,968	252	542			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	15,078	15,005	10	63			
	Natural Gas T/D Losses	13,480		13,480				
	Use of SF6 in the Utility Industry	1,244					1,244	
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	<b>Product Use (ODS Substitutes)</b>							
	All Refrigerants- except utility SF6	9,652					9,652	
	<b>Transportation Energy</b>	<b>On-road ALL (Total reflects subtraction of ethanol)</b>						
		Motor Gasoline (E-10)	131,001	130,538	346	117		
		Diesel	22,222	22,148	55	19		
		Ethanol						
		Biodiesel						
		<b>Rail</b>						
		Diesel	6,281	6,260	16	5		
Coal		7	7	0	0			
<b>Marine</b>								
Gasoline								
Distillate		-	-	-	-			
Residual Fuel Oil		-	-	-	-			
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)		42,643	42,496	110	37			
<b>Waste Management</b>		<b>Solid Waste Management</b>						
	Landfill Methane from FOD of waste generated	6,449	-	6,449	-			
	MSW incineration (non grid connected)							
	<b>Sewage Treatment</b>							
	Central WWTPs and Septic Systems (Total reflects rounding)	2,102		1,401	701			
<b>Agriculture</b>	<b>Livestock</b>							
	Enteric Fermentation	202,771		202,771				
	Manure management	41,772		34,551	7,221			
	<b>Crop Production and Soil Management</b>							
	Use of Fertilizer	8,699			8,699			
Crop Residue Incineration								
<b>Grand Totals</b>		<b>989,391</b>	<b>698,511</b>	<b>260,250</b>	<b>19,735</b>	<b>-</b>	<b>9,652</b>	

Note: Red text represents text added to original template to provide additional information or clarification

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **Yates**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
	Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>								
<b>Residential Energy Consumption</b>								
FL Electricity Consumption		31,574			Yes	Consumption	MMBTU	474,672
FL Direct Residential Fuel Consumption	21,760				Yes	Consumption	MMBTU	410,000
FL Direct Residential Fuel Consumption	18,009				Yes	Consumption	MMBTU	284,826
FL Direct Residential Fuel Consumption	8,815				Yes	Consumption	MMBTU	118,788
FL Direct Residential Fuel Consumption	895			42,542	Yes	Consumption	MMBTU	453,534
<b>Commercial Energy Consumption</b>								
FL Electricity Consumption		8,551			Yes	Consumption	MMBTU	128,549
FL Commercial Direct Fuel Consumption	8,435				Yes	Consumption	MMBTU	158,932
FL Commercial Direct Fuel Consumption	3,384				Yes	Consumption	MMBTU	53,515
FL Commercial Direct Fuel Consumption	4,068				Yes	Consumption	MMBTU	54,823
FL Commercial Direct Fuel Consumption	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	87				Yes	Consumption	MMBTU	843
FL Commercial Direct Fuel Consumption	146			6,945	Yes	Consumption	MMBTU	74,036
<b>Industrial Energy Consumption</b>								
FL Electricity Consumption		16,091			Yes	Consumption	MMBTU	241,908
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	-				Yes	Consumption	MMBTU	-
<b>Energy Generation and Supply</b>								
FL Elec Generation GHG Analysis	574,429				No	Generation	MMBTU	5,876,692
FL Elec Generation GHG Analysis	Nuclear				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	421			No	Generation	MMBTU	5,670
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-			No	MSW Combusted	MMBTU	-
FL Electricity Consumption		3,272			Yes	Losses	MMBTU	49,186
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption								
	Natural Gas T/D Losses	4,251			Yes	Losses	MMBTU	-
FL Electricity Consumption		3,468			Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>								
Not Reported	Cement Production				Yes			
Not Reported	Iron and Steel Production				Yes			
Not Reported	Ferrous Alloy Production				Yes			
Not Reported	Aluminum Production				Yes			
Not Reported	Paper and Pulp				Yes			

Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>								
FL Industrial Sources	All Refrigerants- except SF6	5,804				Yes			
<b>Transportation Energy</b>	<b>On-road</b>								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	72,278		5,246		Yes	Consumption	MMBTU	1,102,252
FL Emission Summary - Onroad	Diesel	21,106				Yes	Consumption	MMBTU	284,413
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	<b>Rail</b>								
FL Emission Summary - Rail	Diesel	1,089				Yes	Consumption	MMBTU	14,681
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	<b>Marine</b>								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	<b>Air</b>								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	981				No	Consumption	MMBTU	13,752
	<b>Off-road Mobile</b>								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	40,212				Yes	Consumption	MMBTU	562,680
<b>Waste Management</b>	<b>Solid Waste Management</b>								
	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0	5,103	4,201		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	15,890
FL Waste	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
Not Reported							MSW Sent for Incineration	Tonnes	-
	<b>Sewage Treatment</b>						MSW incinerated in Bounda	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	1,085				Yes			
<b>Agriculture</b>	<b>Livestock</b>								
GHF_FL_Agriculture	Enteric Fermentation	64,475				Yes			
GHF_FL_Agriculture	Manure management	11,651				Yes			
GHF_FL_Agriculture	<b>Crop Production and Soil Management</b>								
GHF_FL_Agriculture	Use of Fertilizer	4,407				Yes			
Not Reported	Crop Residue Incineration					No			
<b>Land Use and Forestry</b>									
GHG_FL_Forest	Urban Forest Annual Reserve	969				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	15,935,289				No			
<b>Grand Totals</b>	<b>Gross Totals</b>	295,424	59,488	5,103	58,933	360,016			
	Total with Aircraft	296,406	59,488	5,103	58,933	360,997			
	Net Totals								

Note: Red text represents text added to original template to provide additional information or clarification



**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Yates County**

**Color Code**

**REQUIRED** for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

		DRAFT Roll Up Report CGC. Emissions in MTCDE						
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	31,574	31,421	21	132			
	Natural Gas	21,760	21,738	9	13			
	Propane / LPG	18,009	17,938	18	53			
	Distillate Fuel Oil (#1, #2, Kerosene)	8,815	8,786	7	22			
	Wood	895	-	305	591			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	8,551	8,509	6	36			
	Natural Gas	8,435	8,427	3	5			
	Propane / LPG	3,384	3,370	3	10			
	Distillate Fuel Oil (#1, #2, Kerosene)	4,068	4,055	3	10			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	87	86	0	0			
	Wood	146	-	50	96			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	16,091	16,013	11	67			
	Natural Gas	-	-	-	-			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	3,272	3,256	2	14			
	Natural Gas T/D Losses	4,251	-	4,251	-			
	Use of SF6 in the Utility Industry	3,468	-	-	-			3,468
	<b>Industrial Processes</b>							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
Paper and Pulp								
Limestone Use								
Soda Ash Use								
Semi-Conductor Manufacturing								
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	5,804	-	-	-			5,804	
<b>Transportation Energy</b>	<b>On-road ALL (Total reflects subtraction of ethanol)</b>							
	Motor Gasoline (E-10)	72,278	72,022	191	65			
	Diesel	21,106	21,035	53	18			
	Ethanol							
	Biodiesel							
	<b>Rail</b>							
	Diesel	1,089	1,086	3	1			
	Coal							
	<b>Marine</b>							
	Gasoline							
	Distillate							
	Residual Fuel Oil							
	<b>Off-road Mobile</b>							
All Fuels (Diesel and Gasoline)	40,212	40,072	104	35				
<b>Waste Management</b>	<b>Solid Waste Management</b>							
	Landfill Methane from FOD of waste generated	5,103	-	5,103	-			
	MSW incineration (non grid connected)							
	<b>Sewage Treatment</b>							
Central WWTPs and Septic Systems (Total reflects rounding)	1,085		723	362				
<b>Agriculture</b>	<b>Livestock</b>							
	Enteric Fermentation	64,475		64,475				
	Manure management	11,651		9,766	1,885			
	<b>Crop Production and Soil Management</b>							
	Use of Fertilizer	4,407			4,407			
Crop Residue Incineration								
<b>Grand Totals</b>		360,016	257,814	85,108	7,822	-	5,804	3,468

Note: Red text represents text added to original template to provide additional information or clarification

**Electricity Consumption GHG Emissions**

County	# Households <sup>2</sup>	Population <sup>2</sup>	MWh	MMBTU <sup>3</sup>	CO2e (Metric Tons) <sup>1</sup>			
					CO2	CH4	N2O	Total
<b>New York State<sup>2</sup></b>	<b>7,317,755</b>	<b>19,378,102</b>	<b>144,624,000</b>					
<b>Finger Lakes</b>	<b>482,693</b>	<b>1,217,156</b>	<b>11,185,511</b>	<b>38,164,962</b>	<b>2,526,320</b>	<b>1,698</b>	<b>10,648</b>	<b>2,538,667</b>
Genesee	23,728	60,079	407,401	1,390,052	92,014	62	388	92,464
Livingston	24,409	65,393	505,307	1,724,106	114,127	77	481	114,685
Monroe	300,422	744,344	6,693,635	22,838,683	1,511,801	1,016	6,372	1,519,190
Ontario	43,019	107,931	1,206,172	4,115,459	272,422	183	1,148	273,753
Orleans	16,119	42,883	261,996	893,930	59,173	40	249	59,463
Seneca	13,393	35,251	312,295	1,065,549	70,534	47	297	70,878
Wayne	36,585	93,772	409,536	1,397,337	92,496	62	390	92,948
Wyoming	15,501	42,155	1,141,476	3,894,717	257,810	173	1,087	259,070
Yates	9,517	25,348	247,693	845,129	55,943	38	236	56,216

Sector	% of total	Population	MWh	MMBTU <sup>3</sup>	CO2e (Metric Tons) <sup>1</sup>			
					CO2	CH4	N2O	Total
<b>Finger Lakes</b>		<b>1,217,156</b>	<b>19,860,801</b>	<b>67,765,055</b>	<b>4,485,691</b>	<b>3,016</b>	<b>18,907</b>	<b>4,507,614</b>
<b>Residential</b>	<b>22%</b>	<b>4,423,668</b>	<b>4,423,668</b>	<b>15,093,554</b>	<b>999,114</b>	<b>672</b>	<b>4,211</b>	<b>1,003,997</b>
Genesee	0.9%	60,079	171,511	585,195	38,737	26	163	38,926
Livingston	1.1%	65,393	222,084	757,749	50,159	34	211	50,404
Monroe	12.9%	744,344	2,569,350	8,766,622	580,304	390	2,446	583,141
Ontario	2.2%	107,931	444,656	1,517,168	100,429	68	423	100,919
Orleans	0.7%	42,883	130,273	444,492	29,423	20	124	29,567
Seneca	0.7%	35,251	140,346	478,860	31,698	21	134	31,853
Wayne	1.0%	93,772	202,664	691,490	45,773	31	193	45,997
Wyoming	2.0%	42,155	403,666	1,377,307	91,171	61	384	91,616
Yates	0.7%	25,348	139,118	474,672	31,421	21	132	31,574
<b>Commercial<sup>5</sup></b>	<b>21%</b>	<b>4,251,623</b>	<b>4,251,623</b>	<b>14,506,538</b>	<b>960,257</b>	<b>646</b>	<b>4,047</b>	<b>964,950</b>
Genesee	0.5%	60,079	92,989	317,278	21,002	14	89	21,105
Livingston	0.7%	65,393	137,030	467,546	30,949	21	130	31,100
Monroe	14.0%	744,344	2,777,890	9,478,160	627,404	422	2,644	630,471
Ontario	2.4%	107,931	481,028	1,641,268	108,643	73	458	109,174
Orleans	0.2%	42,883	41,863	142,835	9,455	6	40	9,501
Seneca	0.6%	35,251	127,880	436,326	28,882	19	122	29,024
Wayne	0.6%	93,772	116,980	399,135	26,421	18	111	26,550
Wyoming	2.2%	42,155	438,289	1,495,442	98,990	67	417	99,474
Yates	0.2%	25,348	37,676	128,549	8,509	6	36	8,551
<b>Industrial</b>	<b>13%</b>	<b>2,510,220</b>	<b>2,510,220</b>	<b>8,564,870</b>	<b>566,949</b>	<b>381</b>	<b>2,390</b>	<b>569,720</b>
Genesee	0.7%	60,079	142,901	487,578	32,275	22	136	32,433
Livingston	0.7%	65,393	146,193	498,811	33,019	22	139	33,180
Monroe	6.8%	744,344	1,346,396	4,593,902	304,092	204	1,282	305,578
Ontario	1.4%	107,931	280,488	957,024	63,350	43	267	63,660
Orleans	0.5%	42,883	89,860	306,603	20,295	14	86	20,395
Seneca	0.2%	35,251	44,069	150,364	9,953	7	42	10,002
Wayne	0.5%	93,772	89,892	306,712	20,303	14	86	20,402
Wyoming	1.5%	42,155	299,521	1,021,967	67,649	45	285	67,979
Yates	0.4%	25,348	70,899	241,908	16,013	11	67	16,091

Notes  
 1. CO2e calculated based on regional electricity consumption provided by National Grid , NYSEG, RG&E and municiple electricity providers using alternative method and eGRID 2012 NYUP emission factors.

- 2. 2010 US Census
- 3. 1 MWh = 3.412 MMBtu
- 4. New York State Totals from EIA New York <http://www.eia.gov/electricity/state/newyork/>
- 5. Commercial totals include commercial and government sectors

**Grid Losses (Energy and Emissions) from Electricity Consumption<sup>1</sup>**

County	MWh	MMBTU <sup>3</sup>	CO2e (Metric Tons)			
			CO2	CH4	N2O	Total
<b>Finger Lakes</b>	<b>650,997</b>	<b>2,221,201</b>	<b>147,032</b>	<b>99</b>	<b>620</b>	<b>147,750</b>
Genesee	23,711	80,901	5,355	4	23	5,381
Livingston	29,409	100,343	6,642	4	28	6,675
Monroe	389,570	1,329,211	87,987	59	371	88,417
Ontario	70,199	239,520	15,855	11	67	15,932
Orleans	15,248	52,027	3,444	2	15	3,461
Seneca	18,176	62,015	4,105	3	17	4,125
Wayne	23,835	81,325	5,383	4	23	5,410
Wyoming	66,434	226,673	15,005	10	63	15,078
Yates	14,416	49,186	3,256	2	14	3,272

1. CO2e calculated based on regional electricity consumption emissions and eGRID 2012 reported Eastern Grid loss rate of 5.82%

**Electrical Transmission and Distribution--SF6 Emissions**

County	MWh <sup>2</sup>	CO2e (Metric Tons) <sup>1</sup>
		SF6 <sup>3</sup>
<b>United States<sup>1,2</sup></b>	<b>3,884,000,000</b>	<b>11,800,000</b>
<b>Finger Lakes</b>	<b>11,185,511</b>	<b>33,983</b>
Genesee	407,401	1,238
Livingston	505,307	1,535
Monroe	6,693,635	20,336
Ontario	1,206,172	3,664
Orleans	261,996	796
Seneca	247,693	753
Wayne	312,295	949
Wyoming	409,536	1,244
Yates	1,141,476	3,468

**Electricity Consumption Vs. Generation**

<b>Total kwh consumption estimate for Finger Lakes in 2010:</b>	<b>11,185,511</b>
<b>Total kwh consumption + Grid Loss estimate for Finger Lakes in 2010:</b>	<b>11,836,507</b>
<b>Total kwh generated in Finger Lakes in 2010:</b>	<b>7,001,975</b>
<b>Total estimated kwh imported into Finger Lakes in 2010:</b>	<b>4,834,532</b>

- 1. CO2e calculated based on ratio of regional and national electricity consumption and reported national SF6 emissions.
- 2. U.S. Electricity end use consumption from EIA Annual Review, 2010 <http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0801>
- 3. U.S. SF6 emissions from U.S. Greenhouse Gas Inventory Report for 2010: <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html>

Supporting data and calculations are provided in the following E&E Excel Workbook:  
 File Name: FL Electricity Consumption1\_3\_2013.xlsx  
 Date: 11/14/2012

Electricity Generation GHG Emissions

	Total Fuel Consumption <sup>1</sup>	Units	Total Fuel Consumption (MMBTU)	CO2e (Metric Tons) <sup>1</sup>					Biogenic Total <sup>3</sup>
				MWh Generated	Non-biogenic CO2	CH4	N2O	Non biogenic Total	
<b>New York State<sup>2</sup></b>				<b>136,961,654</b>	<b>41,583,758</b>				
Coal				13,582,766					
Natural Gas				48,915,545					
Fuel Oil, Kerosene, etc.				2,004,975					
Landfill				NA					
Nuclear				41,869,535					
Hydro				25,471,697					
Other renewables				4,814,548					
<b>Finger Lakes: Total</b>				<b>13,306,437</b>	<b>3,422,712</b>	<b>7,784</b>	<b>17,009</b>	<b>3,447,505</b>	<b>169,315</b>
Genesee				57,533	34,291	14	20	34,324	-
Livingston				-	-	-	-	-	-
Monroe				526,735	1,017,347	2,374	5,146	1,024,867	56,563
Ontario				-	-	-	-	-	-
Orleans				74,670	-	37	108	146	28,867
Seneca				139,808	-	108	315	423	-
Wayne				4,948,363	-	-	-	-	-
Wyoming				695,869	-	-	-	-	-
Yates				558,997	576,682	1,360	2,920	580,962	-
<b>Finger Lakes: Renewable Energy Total</b>				<b>1,024,551</b>	<b>-</b>	<b>219</b>	<b>635</b>	<b>854</b>	<b>169,315</b>
<b>Coal</b>	<b>313,708</b>	<b>short tons</b>	<b>15,706,588</b>	<b>912,841</b>	<b>1,523,853</b>	<b>3,628</b>	<b>7,790</b>	<b>1,535,272</b>	<b>-</b>
Genesee	-		-	-	-	-	-	-	-
Livingston	-		-	-	-	-	-	-	-
Monroe	79,849		9,829,896	368,866	953,697	2,271	4,876	960,843	-
Ontario	-		-	-	-	-	-	-	-
Orleans	-		-	-	-	-	-	-	-
Seneca	-		-	-	-	-	-	-	-
Wayne	-		-	-	-	-	-	-	-
Wyoming	-		-	-	-	-	-	-	-
Yates	233,859		5,876,692	543,975	570,157	1,358	2,915	574,429	-
<b>Distillate Fuel Oil (#1, 2, or 4)</b>	<b>2,564</b>	<b>barrels</b>	<b>30,014</b>	<b>1,656</b>	<b>2,220</b>	<b>2</b>	<b>6</b>	<b>2,227</b>	<b>-</b>
Genesee	-		36	-	3	0	0	3	-
Livingston	-		-	-	-	-	-	-	-
Monroe	1,172		21,918	822	1,621	1	4	1,627	-
Ontario	-		-	-	-	-	-	-	-
Orleans	-		-	-	-	-	-	-	-
Seneca	-		-	-	-	-	-	-	-
Wayne	-		-	-	-	-	-	-	-
Wyoming	411		2,390	306	177	0	0	177	-
Yates	981		5,670	527	419	0	1	421	-
<b>Landfill Gas<sup>3</sup></b>	<b>5,910,789</b>	<b>mcf</b>	<b>3,251,672</b>	<b>273,107</b>	<b>-</b>	<b>219</b>	<b>635</b>	<b>854</b>	<b>169,315</b>
Genesee	-		-	-	-	-	-	-	-
Livingston	-		-	-	-	-	-	-	-
Monroe	1,984,751		1,086,281	88,109	-	73	212	285	56,563
Ontario	1,028,564		554,396	45,190	-	37	108	146	28,867
Orleans	-		-	-	-	-	-	-	-
Seneca	2,897,474		1,610,995	139,808	-	108	315	423	83,885
Wayne	-		-	-	-	-	-	-	-
Wyoming	-		-	-	-	-	-	-	-
Yates	-		-	-	-	-	-	-	-
<b>Natural Gas</b>	<b>703,196</b>	<b>mcf</b>	<b>1,751,439</b>	<b>109,906</b>	<b>92,861</b>	<b>37</b>	<b>54</b>	<b>92,952</b>	<b>-</b>
Genesee	360,980		646,698	57,533	34,288	14	20	34,322	-
Livingston	-		-	-	-	-	-	-	-
Monroe	232,039		992,917	38,184	52,644	21	31	52,696	-
Ontario	-		-	-	-	-	-	-	-
Orleans	-		-	-	-	-	-	-	-
Seneca	-		-	-	-	-	-	-	-
Wayne	-		-	-	-	-	-	-	-
Wyoming	110,177		111,824	14,189	5,929	2	3	5,935	-
Yates	-		-	-	-	-	-	-	-
<b>Nuclear</b>	<b>0</b>	<b>short tons</b>	<b>51,754,929</b>	<b>4,948,363</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Genesee	-		-	-	-	-	-	-	-
Livingston	-		-	-	-	-	-	-	-
Monroe	-		-	-	-	-	-	-	-
Ontario	-		-	-	-	-	-	-	-
Orleans	-		-	-	-	-	-	-	-
Seneca	-		-	-	-	-	-	-	-
Wayne	-		51,754,929	4,948,363	-	-	-	-	-
Wyoming	-		-	-	-	-	-	-	-
Yates	-		-	-	-	-	-	-	-
<b>Residual Fuel Oil</b>	<b>4,055</b>	<b>short tons</b>	<b>124,973</b>	<b>4,659</b>	<b>9,385</b>	<b>8</b>	<b>23</b>	<b>9,417</b>	<b>-</b>
Genesee	-		-	-	-	-	-	-	-
Livingston	-		-	-	-	-	-	-	-
Monroe	4,055		124,973	4,659	9,385	8	23	9,417	-
Ontario	-		-	-	-	-	-	-	-
Orleans	-		-	-	-	-	-	-	-
Seneca	-		-	-	-	-	-	-	-
Wayne	-		-	-	-	-	-	-	-

Generation  
9.715% in NYS

Wyoming	-	-	-	-	-	-	-	-	-
Yates	-	-	-	-	-	-	-	-	-
<b>Hydro<sup>4</sup></b>	<b>0</b>	<b>0</b>	<b>542,190</b>	<b>55,575</b>	-	-	-	-	-
Genesee	-	-	-	-	-	-	-	-	-
Livingston	-	-	-	-	-	-	-	-	-
Monroe	-	-	339,986	34,849	-	-	-	-	-
Ontario	-	-	-	-	-	-	-	-	-
Orleans	-	-	202,204	20,726	-	-	-	-	-
Seneca	-	-	-	-	-	-	-	-	-
Wayne	-	-	-	-	-	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-
Yates	-	-	-	-	-	-	-	-	-
<b>Wind<sup>4</sup></b>	<b>0</b>	<b>0</b>	<b>6,788,901</b>	<b>695,869</b>	-	-	-	-	-
Genesee	-	-	-	-	-	-	-	-	-
Livingston	-	-	-	-	-	-	-	-	-
Monroe	-	-	-	-	-	-	-	-	-
Ontario	-	-	-	-	-	-	-	-	-
Orleans	-	-	-	-	-	-	-	-	-
Seneca	-	-	-	-	-	-	-	-	-
Wayne	-	-	-	-	-	-	-	-	-
Wyoming	-	-	6,788,901	695,869	-	-	-	-	-
Yates	-	-	-	-	-	-	-	-	-

Notes

- CO2e calculated based on regional electricity generation data from 2010 EIA Form 923 reported energy use by facility, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)\*
  - \*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>
  - New York State Energy Generated and CO2e Emission Totals from EIA New York <http://www.eia.gov/electricity/state/newyork/>
  - CO2 from landfill gas are considered a source of biogenic (renewable) emissions, not to be included in GHG emission totals:
- \*\*Table B2, "Methodology for Allocating Municipal Solid Waste to Biogenic/Non-Biogenic Energy" [http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw\\_report.html](http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html)
- Renewable sources highlighted in green

**GHG Emissions from Natural Gas Electricity Generation Transmission and Distribution Losses<sup>1</sup>**

	% T&D Loss	Total Natural Gas (mcf)		CH4 Losses in lbs		Total CO2e
		Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e	
Natural Gas T&D Losses	1.8%	703,196	12,658	567,057.25		5,401
Genesee	1.8%	360,980	6,498	291,094.27		2,773
Livingston	1.8%	-	-	-		-
Monroe	1.8%	232,039	4,177	187,116.25		1,782
Ontario	1.8%	-	-	-		-
Orleans	1.8%	-	-	-		-
Seneca	1.8%	-	-	-		-
Wayne	1.8%	-	-	-		-
Wyoming	1.8%	110,177	1,983	88,846.73		846
Yates	1.8%	-	-	-		-

Notes

- CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total CO2e estimated from natural gas use for electricity generation within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Elec Generation GHG Analysis 1\_14\_13.xlsx

Date:

1/14/2013

**Residential Building Emissions from Stationary Combustion**

	CO <sub>2</sub> e (Metric Tons) <sup>1</sup>						
	# Households <sup>2</sup>	mmBTU <sup>2</sup>	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total	Biogenic Total <sup>3</sup>
<b>New York State</b>	<b>7,317,755</b>	<b>595,650,000</b>	<b>31,788,580</b>	<b>50,832</b>	<b>103,983</b>	<b>31,943,395</b>	<b>4,633,720</b>
Natural Gas	3,972,785	399,700,000	21,192,094	8,394	12,391	21,212,878	
Bottled, Tank, or LP gas	225,680	22,200,000	1,398,156	1,399	4,129	1,403,684	
Fuel Oil, Kerosene, etc.	2,207,233	124,300,000	9,193,228	7,831	23,120	9,224,179	
Wood	138,599	49,400,000	-	33,197	64,319	97,516	4,633,720
Coal	19,542	50,000	5,102	12	25	5,138	
<b>% Finger Lakes</b>	<b>6.6%</b>	<b>9.7%</b>	<b>9.0%</b>	<b>9.8%</b>	<b>9.2%</b>	<b>9.0%</b>	
<b>Finger Lakes</b>	<b>482,693</b>	<b>57,823,387</b>	<b>2,875,751</b>	<b>4,959</b>	<b>9,554</b>	<b>2,890,264</b>	<b>502,028</b>
Natural Gas	339,434	46,303,439	2,455,008	972	1,435	2,457,416	
Bottled, Tank, or LP gas	28,481	3,247,626	204,535	205	604	205,344	
Fuel Oil, Kerosene, etc.	35,486	2,912,087	215,378	183	542	216,103	
Wood	14,648	5,352,108	-	3,597	6,968	10,565	502,028
Coal	2,704	8,126	829	2	4	835	
<b>Genesee County</b>	<b>23,728</b>	<b>2,888,698</b>	<b>140,469</b>	<b>353</b>	<b>703</b>	<b>141,525</b>	<b>38,518</b>
Natural Gas	13,816	1,890,192	100,218	40	59	100,316	
Bottled, Tank, or LP gas	2,634	295,220	18,593	19	55	18,666	
Fuel Oil, Kerosene, etc.	3,601	292,139	21,607	18	54	21,679	
Wood	1,147	410,640	-	276	535	811	38,518
Coal	184	507	52	0	0	52	
<b>Livingston County</b>	<b>24,409</b>	<b>3,036,410</b>	<b>128,764</b>	<b>595</b>	<b>1,176</b>	<b>130,535</b>	<b>72,693</b>
Natural Gas	11,805	1,638,642	86,881	34	51	86,966	
Bottled, Tank, or LP gas	3,362	382,302	24,077	24	71	24,173	
Fuel Oil, Kerosene, etc.	2,913	239,781	17,734	15	45	17,794	
Wood	2,134	774,980	-	521	1,009	1,530	72,693
Coal	253	707	72	0	0	73	
<b>Monroe County</b>	<b>300,422</b>	<b>35,307,529</b>	<b>1,858,046</b>	<b>1,241</b>	<b>2,166</b>	<b>1,861,453</b>	<b>63,906</b>
Natural Gas	246,211	33,301,091	1,765,624	699	1,032	1,767,355	
Bottled, Tank, or LP gas	4,598	509,489	32,088	32	95	32,214	
Fuel Oil, Kerosene, etc.	10,166	815,296	60,299	51	152	60,502	
Wood	1,926	681,303	-	458	887	1,345	63,906
Coal	128	350	36	0	0	36	
<b>Ontario County</b>	<b>43,019</b>	<b>5,174,162</b>	<b>249,481</b>	<b>618</b>	<b>1,223</b>	<b>251,322</b>	<b>67,876</b>
Natural Gas	25,512	3,534,230	187,385	74	110	187,569	
Bottled, Tank, or LP gas	4,582	520,078	32,755	33	97	32,884	
Fuel Oil, Kerosene, etc.	4,808	394,945	29,210	25	73	29,308	
Wood	1,997	723,622	-	486	942	1,428	67,876
Coal	460	1,286	131	0	1	132	
<b>Orleans County</b>	<b>16,119</b>	<b>2,026,486</b>	<b>88,229</b>	<b>409</b>	<b>820</b>	<b>89,457</b>	<b>49,257</b>
Natural Gas	6,677	925,549	49,073	19	29	49,121	
Bottled, Tank, or LP gas	2,756	313,012	19,714	20	58	19,791	
Fuel Oil, Kerosene, etc.	3,195	262,595	19,422	17	49	19,487	
Wood	1,448	525,124	-	353	684	1,037	49,257
Coal	73	204	21	0	0	21	
<b>Seneca County</b>	<b>13,393</b>	<b>1,498,943</b>	<b>74,657</b>	<b>192</b>	<b>394</b>	<b>75,244</b>	<b>20,277</b>
Natural Gas	5,836	815,314	43,228	17	25	43,270	
Bottled, Tank, or LP gas	2,554	292,334	18,411	18	54	18,484	
Fuel Oil, Kerosene, etc.	2,086	172,791	12,780	11	32	12,823	
Wood	591	216,169	-	145	281	427	20,277
Coal	829	2,335	238	1	1	240	
<b>Wayne County</b>	<b>36,585</b>	<b>4,519,734</b>	<b>208,461</b>	<b>692</b>	<b>1,372</b>	<b>210,524</b>	<b>80,378</b>
Natural Gas	19,496	2,742,466	145,406	58	85	145,548	
Bottled, Tank, or LP gas	3,978	458,420	28,871	29	85	28,985	
Fuel Oil, Kerosene, etc.	5,530	461,287	34,117	29	86	34,232	
Wood	2,329	856,904	-	576	1,116	1,692	80,378
Coal	232	657	67	0	0	67	
<b>Wyoming County</b>	<b>15,501</b>	<b>2,103,566</b>	<b>79,109</b>	<b>521</b>	<b>1,022</b>	<b>80,652</b>	<b>66,582</b>
Natural Gas	7,260	1,045,955	55,457	22	32	55,511	
Bottled, Tank, or LP gas	1,626	191,943	12,089	12	36	12,136	
Fuel Oil, Kerosene, etc.	1,808	154,466	11,424	10	29	11,463	
Wood	1,883	709,832	-	477	924	1,401	66,582
Coal	472	1,370	140	0	1	141	
<b>Yates County</b>	<b>9,517</b>	<b>1,267,859</b>	<b>48,535</b>	<b>339</b>	<b>679</b>	<b>49,552</b>	<b>42,542</b>
Natural Gas	2,821	410,000	21,738	9	13	21,760	
Bottled, Tank, or LP gas	2,392	284,826	17,938	18	53	18,009	
Fuel Oil, Kerosene, etc.	1,378	118,788	8,786	7	22	8,815	
Wood	1,193	453,534	-	305	591	895	42,542
Coal	73	710	72	0	0	73	

Notes:

1. CO2e calculated based on allocation of EIA 2010 Residential Energy use in New York\*, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)\*\*

\*[http://www.eia.gov/state/seds/sep\\_sum/html/pdf/sum\\_btu\\_com.pdf](http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_com.pdf)

\*\*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State, regional and county residential energy totals allocated based on 2007 - 2010 ACS data for type of residence and heating fuel type, 2010 US Census data used for total occupied units, and HDD determined based on NOAA New York State climate divisions. fuel use by structure size determined though EPA study provided to GHG Inventory Protocol group.

3. CO2 from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

**GHG Emissions from Natural Gas Use Transmission and Distribution Losses<sup>1</sup>**

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
<b>Natural Gas T&amp;D Losses</b>	<b>1.8%</b>	<b>45,042,256.11</b>	<b>810,761</b>	<b>36,322,075</b>	<b>345,984</b>
Genesee	1.8%	1,838,708.48	33,097	1,482,734.52	14,124
Livingston	1.8%	1,594,009.33	28,692	1,285,409.13	12,244
Monroe	1.8%	32,394,057.24	583,093	26,122,567.76	248,829
Ontario	1.8%	3,437,967.35	61,883	2,772,376.87	26,408
Orleans	1.8%	900,339.68	16,206	726,033.92	6,916
Seneca	1.8%	793,106.79	14,276	639,561.31	6,092
Wayne	1.8%	2,667,768.45	48,020	2,151,288.48	20,492
Wyoming	1.8%	1,017,465.83	18,314	820,484.45	7,815
Yates	1.8%	398,832.96	7,179	321,618.90	3,064

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total residential natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Residential Direct Energy Sources 1\_3\_13.xlsx

Date:

1/4/2013

Commercial Energy Use Emissions									
	CO2e (Metric Tons) <sup>1</sup>								
	Workers <sup>2</sup>	Sq Footage <sup>2</sup>	mmBTU <sup>1</sup>	CO2	CH4	N2O	Total	Biogenic Total <sup>3</sup>	
<b>New York State</b>	<b>6,618,037</b>	<b>6,018,827,593</b>	<b>431,800,000</b>	<b>24,923,838</b>	<b>21,323</b>	<b>46,590</b>	<b>24,991,751</b>		
Natural Gas	4,005,538	3,519,948,423	294,100,000	15,593,182	6,176	9,117	15,608,475		
Bottled, Tank, or LP gas	227,624	183,398,128	6,600,000	415,668	416	1,228	417,311		
Fuel Oil, Kerosene, etc.	2,225,226	2,200,987,287	120,400,000	8,904,784	7,585	22,394	8,934,764		
<b>Wood3</b>	<b>139,846</b>	<b>97,326,344</b>	<b>10,600,000</b>	<b>-</b>	<b>7,123</b>	<b>13,801</b>	<b>20,924</b>	<b>994,280</b>	
Coal	19,802	17,167,411	100,000	10,204	23	50	10,277		
%	6%	6%	8%	7%	7%	6%	7%		
<b>Finger Lakes</b>	<b>384,093</b>	<b>366,488,593</b>	<b>33,910,696</b>	<b>1,785,808</b>	<b>1,578</b>	<b>2,942</b>	<b>1,790,328</b>		
Natural Gas	320,904	305,344,394	30,013,998	1,591,342	630	930	1,592,903		
Bottled, Tank, or LP gas	21,102	21,072,894	825,329	51,979	52	154	52,185		
Fuel Oil, Kerosene, etc.	27,841	27,460,747	1,909,428	141,221	120	355	141,697		
<b>Wood3</b>	<b>10,561</b>	<b>10,577,475</b>	<b>1,149,538</b>	<b>-</b>	<b>772</b>	<b>1,497</b>	<b>2,269</b>	<b>107,827</b>	
Coal	3,685	2,033,084	12,404	1,266	3	6	1,275		
<b>Genesee County</b>	<b>16,610</b>	<b>18,025,185</b>	<b>1,545,875</b>	<b>81,730</b>	<b>113</b>	<b>227</b>	<b>82,071</b>		
Natural Gas	10,732	11,646,888	1,143,380	60,622	24	35	60,681		
Bottled, Tank, or LP gas	2,046	2,220,251	86,556	5,451	5	16	5,473		
Fuel Oil, Kerosene, etc.	2,797	3,035,768	210,395	15,561	13	39	15,613		
<b>Wood3</b>	<b>891</b>	<b>967,221</b>	<b>104,604</b>	<b>-</b>	<b>70</b>	<b>136</b>	<b>206</b>	<b>9,812</b>	
Coal	143	155,057	939	96	0	0	97		
<b>Livingston County</b>	<b>13,681</b>	<b>14,449,170</b>	<b>1,228,195</b>	<b>60,397</b>	<b>143</b>	<b>284</b>	<b>60,824</b>		
Natural Gas	7,891	8,334,214	825,521	43,769	17	26	43,812		
Bottled, Tank, or LP gas	2,247	2,373,224	93,350	5,879	6	17	5,902		
Fuel Oil, Kerosene, etc.	1,947	2,056,699	143,821	10,637	9	27	10,673		
<b>Wood3</b>	<b>1,427</b>	<b>1,506,718</b>	<b>164,413</b>	<b>-</b>	<b>110</b>	<b>214</b>	<b>325</b>	<b>15,422</b>	
Coal	169	178,314	1,090	111	0	1	112		
<b>Monroe County</b>	<b>271,326</b>	<b>252,527,276</b>	<b>24,254,832</b>	<b>1,291,306</b>	<b>675</b>	<b>1,138</b>	<b>1,293,119</b>		
Natural Gas	253,978	236,381,368	23,205,657	1,230,364	487	719	1,231,571		
Bottled, Tank, or LP gas	4,743	4,414,095	172,082	10,838	11	32	10,881		
Fuel Oil, Kerosene, etc.	10,486	9,759,913	676,416	50,028	43	126	50,196		
<b>Wood3</b>	<b>1,986</b>	<b>1,848,655</b>	<b>199,930</b>	<b>-</b>	<b>134</b>	<b>260</b>	<b>395</b>	<b>18,753</b>	
Coal	132	123,244	747	76	0	0	77		
<b>Ontario County</b>	<b>34,524</b>	<b>36,566,189</b>	<b>3,194,864</b>	<b>166,868</b>	<b>228</b>	<b>450</b>	<b>167,545</b>		
Natural Gas	23,576	24,970,360	2,473,364	131,138	52	77	131,266		
Bottled, Tank, or LP gas	4,234	4,484,879	176,412	11,110	11	33	11,154		
Fuel Oil, Kerosene, etc.	4,443	4,705,889	329,073	24,338	21	61	24,420		
<b>Wood3</b>	<b>1,845</b>	<b>1,954,353</b>	<b>213,260</b>	<b>-</b>	<b>143</b>	<b>278</b>	<b>421</b>	<b>20,004</b>	
Coal	426	450,708	2,755	281	1	1	283		
<b>Orleans County</b>	<b>7,722</b>	<b>7,235,274</b>	<b>583,665</b>	<b>29,629</b>	<b>72</b>	<b>146</b>	<b>29,847</b>		
Natural Gas	3,644	3,414,335	335,187	17,772	7	10	17,789		
Bottled, Tank, or LP gas	1,504	1,409,354	54,943	3,460	3	10	3,474		
Fuel Oil, Kerosene, etc.	1,744	1,633,688	113,224	8,374	7	21	8,402		
<b>Wood3</b>	<b>790</b>	<b>740,508</b>	<b>80,085</b>	<b>-</b>	<b>54</b>	<b>104</b>	<b>158</b>	<b>7,512</b>	
Coal	40	37,389	227	23	0	0	23		
<b>Seneca County</b>	<b>7,785</b>	<b>7,321,173</b>	<b>550,175</b>	<b>29,713</b>	<b>44</b>	<b>92</b>	<b>29,850</b>		
Natural Gas	3,819	3,591,519	355,747	18,862	7	11	18,880		
Bottled, Tank, or LP gas	1,671	1,571,756	61,825	3,894	4	11	3,909		
Fuel Oil, Kerosene, etc.	1,365	1,283,663	89,764	6,639	6	17	6,661		
<b>Wood3</b>	<b>387</b>	<b>364,005</b>	<b>39,720</b>	<b>-</b>	<b>27</b>	<b>52</b>	<b>78</b>	<b>3,726</b>	
Coal	543	510,230	3,119	318	1	2	321		
<b>Wayne County</b>	<b>18,554</b>	<b>17,092,694</b>	<b>1,465,102</b>	<b>75,669</b>	<b>132</b>	<b>264</b>	<b>76,065</b>		
Natural Gas	10,767	10,557,540	1,036,438	54,952	22	32	55,006		
Bottled, Tank, or LP gas	2,197	2,153,957	83,971	5,289	5	16	5,309		
Fuel Oil, Kerosene, etc.	3,054	2,994,804	207,556	15,351	13	39	15,403		
<b>Wood3</b>	<b>1,286</b>	<b>1,260,999</b>	<b>136,376</b>	<b>-</b>	<b>92</b>	<b>178</b>	<b>269</b>	<b>12,792</b>	
Coal	1,251	125,394	760	78	0	0	78		
<b>Wyoming County</b>	<b>9,112</b>	<b>8,706,196</b>	<b>745,840</b>	<b>34,560</b>	<b>111</b>	<b>218</b>	<b>34,889</b>		
Natural Gas	4,887	4,843,636	479,772	25,438	10	15	25,462		
Bottled, Tank, or LP gas	1,094	1,084,882	42,674	2,688	3	8	2,698		
Fuel Oil, Kerosene, etc.	1,217	1,206,329	84,356	6,239	5	16	6,260		
<b>Wood3</b>	<b>1,268</b>	<b>1,256,536</b>	<b>137,114</b>	<b>-</b>	<b>92</b>	<b>179</b>	<b>271</b>	<b>12,861</b>	
Coal	646	314,813	1,924	196	0	1	198		
<b>Yates County</b>	<b>4,779</b>	<b>4,565,437</b>	<b>342,149</b>	<b>15,938</b>	<b>60</b>	<b>122</b>	<b>16,120</b>		
Natural Gas	1,610	1,604,535	158,932	8,427	3	5	8,435		
Bottled, Tank, or LP gas	1,365	1,360,494	53,515	3,370	3	10	3,384		
Fuel Oil, Kerosene, etc.	787	783,994	54,823	4,055	3	10	4,068		
<b>Wood3</b>	<b>681</b>	<b>678,479</b>	<b>74,036</b>	<b>-</b>	<b>50</b>	<b>96</b>	<b>146</b>	<b>6,945</b>	
Coal	336	137,936	843	86	0	0	87		

Notes:

1. CO2e calculated based on allocation of EIA 2010 Commercial Energy use in New York\*, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)\*\*

\*[http://www.eia.gov/state/seds/sep\\_sum/html/pdf/sum\\_bt\\_u\\_com.pdf](http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_bt_u_com.pdf)

\*\*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State, regional and county commercial energy totals allocated based on NYS 2010 Department of Labor statistics for each county, the CBECs average floor space per worker, and 2010 HDD based on NOAA climate divisions

- 3. CO2 from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals
- 4. Renewable sources highlighted in green

**GHG Emissions from Natural Gas Use Transmission and Distribution Losses<sup>1</sup>**

		Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
<b>Natural Gas T&amp;D Losses</b>	<b>1.8%</b>	<b>29,196,495.67</b>	<b>525,537</b>	<b>23,544,054.11</b>	<b>224,268</b>
Genesee	1.8%	1,112,237.15	20,020	896,908.04	8,543
Livingston	1.8%	803,035.61	14,455	647,567.92	6,168
Monroe	1.8%	22,573,596.15	406,325	18,203,347.93	173,395
Ontario	1.8%	2,405,996.38	43,308	1,940,195.48	18,481
Orleans	1.8%	326,057.04	5,869	262,932.40	2,505
Seneca	1.8%	346,057.51	6,229	279,060.78	2,658
Wayne	1.8%	1,008,208.23	18,148	813,019.12	7,744
Wyoming	1.8%	466,704.13	8,401	376,350.21	3,585
Yates	1.8%	154,603.47	2,783	124,672.24	1,188

Notes

- 1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total commercial natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

WNY Commercial Energy Emissions 1\_4\_13.xlsx

Date:

1/4/2013



## Industrial Energy Use Emissions

	mmBTU <sup>2</sup>	CO <sub>2</sub> e (Metric Tons) <sup>1</sup>				Biogenic Total <sup>3</sup>
		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total	
<b>New York State<sup>2</sup></b>	<b>142,674,216</b>	<b>8,707,842</b>	<b>14,208</b>	<b>28,311</b>	<b>8,750,361</b>	<b>219,731</b>
Natural Gas	100,184,192	5,311,766	2,104	3,106	5,316,975	
LPG	381,677	24,038	24	71	24,133	
Distillate Fuel Oil (#1, #2, Kerosene)	2,866,662	211,235	181	533	211,949	
<i>Heating Oil #1</i>	1,103,236	80,812	70	205	81,087	
<i>Heating Oil #2</i>	1,763,426	130,423	111	328	130,862	
Residual Fuel Oil (#4 and #6)	14,565,792	1,093,813	918	2,709	1,097,440	
<i>Heating Oil #4</i>	1,300,971	97,625	82	242	97,949	
<i>Heating Oil #6</i>	13,264,821	996,188	836	2,467	999,491	
Coal	12,699,950	1,193,241	2,934	6,299	1,202,474	
<i>Bituminous Coal</i>	11,911,597	1,112,543	2,752	5,908	1,121,203	
<i>Anthracite Coal</i>	169,701	17,571	39	84	17,694	
<i>Coke</i>	618,652	63,127	143	307	63,577	
Wood <sup>3</sup>	2,342,544	-	1,574	3,050	4,624	219,731
MSW <sup>5</sup>	9,633,400	873,749	6,474	12,543	892,766	
Solid Other						
Liquid Other						
<b>%</b>	<b>5%</b>	<b>6%</b>	<b>4%</b>	<b>4%</b>	<b>6%</b>	
<b>Finger Lakes</b>	<b>7,545,399</b>	<b>487,927</b>	<b>603</b>	<b>1,229</b>	<b>489,759</b>	<b>-</b>
Natural Gas	5,289,881	280,470	111	164	280,745	
LPG	2,459	155	0	0	156	
Distillate Fuel Oil (#1, #2, Kerosene)	12,484	923	1	2	926	
<i>Heating Oil #1</i>	-	-	-	-	-	
<i>Heating Oil #2</i>	12,484	923	1	2	926	
Residual Fuel Oil (#4 and #6)	157,965	11,863	10	29	11,903	
<i>Heating Oil #4</i>	-	-	-	-	-	
<i>Heating Oil #6</i>	157,965	11,863	10	29	11,903	
Coal	2,082,610	194,516	481	1,033	196,030	
<i>Bituminous Coal</i>	2,082,610	194,516	481	1,033	196,030	
<i>Anthracite Coal</i>	-	-	-	-	-	
<i>Coke</i>	-	-	-	-	-	
Wood <sup>3</sup>	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
<b>Genesee County</b>	<b>757,926</b>	<b>40,185</b>	<b>16</b>	<b>23</b>	<b>40,225</b>	
Natural Gas	757,926	40,185	16	23	40,225	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
<i>Heating Oil #1</i>	-	-	-	-	-	
<i>Heating Oil #2</i>	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
<i>Heating Oil #4</i>	-	-	-	-	-	
<i>Heating Oil #6</i>	-	-	-	-	-	
Coal	-	-	-	-	-	
<i>Bituminous Coal</i>	-	-	-	-	-	
<i>Anthracite Coal</i>	-	-	-	-	-	
<i>Coke</i>	-	-	-	-	-	
Wood <sup>3</sup>	-	-	-	-	-	
MSW	-	-	-	-	-	

Solid Other					
Liquid Other					
<b>Livingston County</b>	<b>172,960</b>	<b>9,177</b>	<b>4</b>	<b>5</b>	<b>9,186</b>
Natural Gas	172,326	9,137	4	5	9,146
LPG	634	40	0	0	40
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-
Coal	-	-	-	-	-
<i>Bituminous Coal</i>	-	-	-	-	-
<i>Anthracite Coal</i>	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-
<b>Wood<sup>3</sup></b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
<b>Monroe County</b>	<b>2,747,714</b>	<b>189,445</b>	<b>273</b>	<b>572</b>	<b>190,291</b>
Natural Gas	1,586,308	84,106	33	49	84,189
LPG	85	5	0	0	5
Distillate Fuel Oil (#1, #2, Kerosene)	12,484	923	1	2	926
<i>Heating Oil #1</i>	-	-	-	-	-
<i>Heating Oil #2</i>	12,484	923	1	2	926
Residual Fuel Oil (#4 and #6)	157,965	11,863	10	29	11,903
<i>Heating Oil #4</i>	-	-	-	-	-
<i>Heating Oil #6</i>	157,965	11,863	10	29	11,903
Coal	990,874	92,548	229	491	93,268
<i>Bituminous Coal</i>	990,874	92,548	229	491	93,268
<i>Anthracite Coal</i>	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-
<b>Wood<sup>3</sup></b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
<b>Ontario County</b>	<b>2,278,588</b>	<b>120,828</b>	<b>48</b>	<b>71</b>	<b>120,947</b>
Natural Gas	2,276,846	120,718	48	71	120,837
LPG	1,741	110	0	0	110
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-
Coal	-	-	-	-	-
<i>Bituminous Coal</i>	-	-	-	-	-
<i>Anthracite Coal</i>	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-
<b>Wood<sup>3</sup></b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
<b>Orleans County</b>	<b>150,951</b>	<b>8,003</b>	<b>3</b>	<b>5</b>	<b>8,011</b>
Natural Gas	150,951	8,003	3	5	8,011

LPG	-	-	-	-	-	-
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-	-
Coal	-	-	-	-	-	-
<i>Bituminous Coal</i>	-	-	-	-	-	-
<i>Anthracite Coal</i>	-	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-	-
<b>Wood<sup>3</sup></b>	-	-	-	-	-	-
MSW	-	-	-	-	-	-
Solid Other	-	-	-	-	-	-
Liquid Other	-	-	-	-	-	-
<b>Seneca County</b>	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-
LPG	-	-	-	-	-	-
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-	-
Coal	-	-	-	-	-	-
<i>Bituminous Coal</i>	-	-	-	-	-	-
<i>Anthracite Coal</i>	-	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-	-
<b>Wood<sup>3</sup></b>	-	-	-	-	-	-
MSW	-	-	-	-	-	-
Solid Other	-	-	-	-	-	-
Liquid Other	-	-	-	-	-	-
<b>Wayne County</b>	<b>180,517</b>	<b>9,571</b>	<b>4</b>	<b>6</b>	<b>9,580</b>	-
Natural Gas	180,517	9,571	4	6	9,580	-
LPG	-	-	-	-	-	-
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-	-
Coal	-	-	-	-	-	-
<i>Bituminous Coal</i>	-	-	-	-	-	-
<i>Anthracite Coal</i>	-	-	-	-	-	-
<i>Coke</i>	-	-	-	-	-	-
<b>Wood<sup>3</sup></b>	-	-	-	-	-	-
MSW	-	-	-	-	-	-
Solid Other	-	-	-	-	-	-
Liquid Other	-	-	-	-	-	-
<b>Wyoming County</b>	<b>1,256,744</b>	<b>110,717</b>	<b>256</b>	<b>547</b>	<b>111,519</b>	-
Natural Gas	165,008	8,749	3	5	8,757	-
LPG	-	-	-	-	-	-
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	-
<i>Heating Oil #1</i>	-	-	-	-	-	-
<i>Heating Oil #2</i>	-	-	-	-	-	-

Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-
<i>Heating Oil #4</i>	-	-	-	-	-	-
<i>Heating Oil #6</i>	-	-	-	-	-	-
Coal	1,091,736	101,968	252	542	102,762	
<i>Bituminous Coal</i>	1,091,736	101,968	252	542	102,762	
<i>Anthracite Coal</i>	-	-	-	-	-	
<i>Coke</i>	-	-	-	-	-	
Wood <sup>3</sup>	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
<b>Yates County</b>	-	-	-	-	-	
Natural Gas	-	-	-	-	-	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
<i>Heating Oil #1</i>	-	-	-	-	-	
<i>Heating Oil #2</i>	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
<i>Heating Oil #4</i>	-	-	-	-	-	
<i>Heating Oil #6</i>	-	-	-	-	-	
Coal	-	-	-	-	-	
<i>Bituminous Coal</i>	-	-	-	-	-	
<i>Anthracite Coal</i>	-	-	-	-	-	
<i>Coke</i>	-	-	-	-	-	
Wood <sup>3</sup>	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						

Notes

- CO<sub>2</sub>e calculated based on regional Title V Air Quality Permitting energy data provided to the CGC GHG Protocol Working Group from the NYSDEC (August 2012), using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)\*  
\*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>
- New York State, regional and county actual energy totals reported for all Title V sources within the area. Electricity generation and landfill emissions were excluded as they are calculated and counted separately in waste and electric consumption and generation
- CO<sub>2</sub> from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals
- Renewable sources highlighted in green
- MSW(Municipal Solid Waste) emissions are included in waste calculations

**GHG Emissions from Natural Gas Use Transmission and Distribution Losses<sup>1</sup>**

			CH <sub>4</sub>	CH <sub>4</sub> Losses in	Total CO <sub>2</sub> e
	% T&D Loss	Total Natural Gas (mcf)	Losses in mcf	lbs	
<b>Natural Gas T&amp;D Losses</b>	<b>1.8%</b>	<b>5,145,798.98</b>	<b>92,624</b>	<b>4,149,572.30</b>	<b>39,527</b>
Genesee	1.8%	737,281.61	13,271	594,543.89	5,663
Livingston	1.8%	167,632.68	3,017	135,179.00	1,288
Monroe	1.8%	1,543,100.88	27,776	1,244,356.55	11,853
Ontario	1.8%	2,214,830.98	39,867	1,786,039.70	17,013
Orleans	1.8%	146,839.49	2,643	118,411.37	1,128
Seneca	1.8%	-	-	-	-
Wayne	1.8%	175,599.71	3,161	141,603.60	1,349
Wyoming	1.8%	160,513.62	2,889	129,438.18	1,233
Yates	1.8%	-	-	-	-

Notes

1. CO<sub>2</sub>e from T&D losses calculated based on ratio of estimated % fuel loss and total industrial natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Industrial Emissions 1-4-13.xlsx

Date:

1/4/2013

**Industrial GHG Emissions**

2010 Emissions reported as part of EPA MRR Program

Region	Source	Process	CO2e (Metric Tons)							Total CO2e
			Emissions by Type <sup>1</sup>							
			CO2	CH4	N2O	CF4	C2F6	CHF3		
<b>New York State</b>										
<b>Finger Lakes</b>										<b>37,292</b>
Genesee County	None									
Livingston County	None									
Monroe County	None									
Ontario County	GUARDIAN INDUSTRIES CORP	Glass Production	X	X	X					37,292
Orleans County	None									
Seneca County	None									
Wayne County	None									
Wyoming County	None									
Yates County	None									

Notes:

1. Emissions from industrial uses and general combustion are not reported separately by type, only total CO2e is reported separately.

**Ozone Depleting Substance Substitution Emissions**

Region	Population	HFC Emissions
		Total CO2e (Metric Tons)
<b>New York State</b>	<b>19,378,102</b>	<b>4,436,697</b>
<b>Finger Lakes</b>	<b>1,217,156</b>	<b>278,672.93</b>
Genesee County	60,079	13,755.34
Livingston County	65,393	14,972.00
Monroe County	744,344	170,420.65
Ontario County	107,931	24,711.25
Orleans County	42,883	9,818.24
Seneca County	35,251	8,070.86
Wayne County	93,772	21,469.49
Wyoming County	42,155	9,651.56
Yates County	25,348	5,803.53

Notes:

1. Emissions from HFC use estimated based on 2010 population ratio and 2007 Reported Statewide HFC emissions (New York State Greenhouse Gas Emissions Inventory)

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Industrial Sources11\_10\_12.xlsx

Date:

11/10/2012

**Table 1**  
**Greenhouse Gas Emission Inventory Summary**  
**Transportation: On-Road Vehicles**  
**Finger Lakes New York Region**

County	Annual Vehicle Miles Travelled <sup>1</sup> (VMT)	Annual GHG Emissions <sup>2</sup> (metric tons CO <sub>2</sub> e/yr)			
		CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Genesee	1,097,199,275	530,382	1,329	455	532,166
Livingston	786,257,742	386,095	967	331	387,393
Monroe	6,486,644,052	2,832,972	7,095	2,432	2,842,498
Ontario	1,424,348,585	658,566	1,616	565	660,747
Orleans	298,777,408	138,335	347	119	138,800
Seneca	461,842,036	218,810	548	188	219,546
Wayne	744,612,295	311,467	780	268	312,515
Wyoming	359,002,158	162,186	406	139	162,731
Yates	198,538,063	98,299	246	84	98,630
<b>Finger Lakes NY Total</b>	<b>11,857,221,614</b>	<b>5,337,111</b>	<b>13,334</b>	<b>4,580</b>	<b>5,355,025</b>

Notes:

1. VMT data for each county provided by NYSDOT.
2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate county-level GHG emissions.

Emission Type	Fuel Type	Finger Lakes NY Annual GHG Emissions <sup>2</sup> (metric tons CO <sub>2</sub> e/yr)
Non-Biogenic	Gasoline <sup>1</sup>	4,273,549
	Diesel	771,313
	<b>Total</b>	<b>5,044,862</b>
Biogenic	Ethanol <sup>1</sup>	310,163
<b>TOTAL</b>		<b>5,355,025</b>

Notes:

1. Non-biogenic Portion of Gasoline E-10. Biogenic portion is not included in GHG totals per NYSGHG Protocol
2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate GHG emissions. The distribution of GHG emissions for the components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

County	Annual Fuel Consumption (MMBtu/yr)		
	Gasoline (E-10)	Diesel	Total
Genesee	6,125,147	1,366,032	7,491,180
Livingston	4,407,479	1,043,088	5,450,567
Monroe	35,371,200	4,780,696	40,151,896
Ontario	7,877,822	1,438,072	9,315,893
Orleans	1,658,969	298,095	1,957,064
Seneca	2,575,910	517,143	3,093,053
Wayne	4,055,928	442,298	4,498,226
Wyoming	1,997,798	360,648	2,358,446
Yates	1,102,252	284,413	1,386,665
<b>Finger Lakes NY Total</b>	<b>65,172,504</b>	<b>10,530,485</b>	<b>75,702,989</b>

Notes:

and national fleet fuel economy data.

Fuel Type	Finger Lakes NY GHG Emissions (metric tons CO <sub>2</sub> e/yr)			
	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
<b>Finger Lakes</b>	<b>5,337,111</b>	<b>13,334</b>	<b>4,580</b>	<b>5,355,025</b>
Gasoline	4,258,449	11,280	3,821	4,273,549
Ethanol <sup>1</sup>	309,904	154	105	310,163
Diesel	768,758	1,899	655	771,313
<b>Genesee</b>	<b>530,382</b>	<b>1,329</b>	<b>455</b>	<b>532,166</b>
Gasoline	400,224	1,060	359	401,644
Ethanol <sup>1</sup>	29,126	15	10	29,150
Diesel	101,032	254	86	101,372
<b>Livingston</b>	<b>386,095</b>	<b>967</b>	<b>331</b>	<b>387,393</b>
Gasoline	287,990	763	258	289,011
Ethanol <sup>1</sup>	20,958	10	7	20,976
Diesel	77,147	194	66	77,407
<b>Monroe</b>	<b>2,832,972</b>	<b>7,095</b>	<b>2,432</b>	<b>2,842,498</b>
Gasoline	2,311,196	6,122	2,074	2,319,392
Ethanol <sup>1</sup>	168,195	84	57	168,335
Diesel	353,580	889	301	354,771
<b>Ontario</b>	<b>658,566</b>	<b>1,616</b>	<b>565</b>	<b>660,747</b>
Gasoline	514,746	1,363	462	516,572
Ethanol <sup>1</sup>	37,460	19	13	37,491
Diesel	106,360	234	91	106,684
<b>Orleans</b>	<b>138,335</b>	<b>347</b>	<b>119</b>	<b>138,800</b>
Gasoline	108,399	287	97	108,783
Ethanol <sup>1</sup>	7,889	4	3	7,895
Diesel	22,047	55	19	22,121
<b>Seneca</b>	<b>218,810</b>	<b>548</b>	<b>188</b>	<b>219,546</b>
Gasoline	168,313	446	151	168,910
Ethanol <sup>1</sup>	12,249	6	4	12,259
Diesel	38,248	96	33	38,377
<b>Wayne</b>	<b>311,467</b>	<b>780</b>	<b>268</b>	<b>312,515</b>
Gasoline	265,019	702	238	265,959
Ethanol <sup>1</sup>	19,286	10	7	19,303
Diesel	27,162	68	23	27,253
<b>Wyoming</b>	<b>162,186</b>	<b>406</b>	<b>139</b>	<b>162,731</b>
Gasoline	130,538	346	117	131,001
Ethanol <sup>1</sup>	9,500	5	3	9,508
Diesel	22,148	55	19	22,222
<b>Yates</b>	<b>98,299</b>	<b>246</b>	<b>84</b>	<b>98,630</b>
Gasoline	72,022	191	65	72,278
Ethanol <sup>1</sup>	5,241	3	2	5,246
Diesel	21,035	53	18	21,106

Notes:

1. Non-biogenic Portion of Gasoline E-10. Biogenic portion is not included in GHG totals per NYSGHG Protocol

2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate GHG emissions. The distribution of GHG emissions for the components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Onroad - 2013\_1\_14.xlsm

Date:

1/14/2013



**Table 1**  
**GHG Emission Summary**  
**Transportation: Railroads**  
**Finger Lakes New York Region**

County	Annual Diesel Consumption <sup>1</sup> (gal/yr)	Annual diesel Consumption (MMBtu/yr)	Direct GHG Emissions from Diesel Train Engine Systems <sup>2</sup> (metric tons CO <sub>2</sub> e/yr)			
			CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Genesee	2,684,250	370,427	27,397	69	23	27,489
Livingston	263,433	36,354	2,689	7	2	2,698
Monroe	3,715,410	512,727	37,921	95	32	38,049
Ontario	101,171	13,962	1,033	3	0.9	1,036
Orleans	17,965	2,479	183	0.5	0.2	184
Seneca	58,215	8,034	594	1	0.5	596
Wayne	2,742,210	378,425	27,988	70	24	28,083
Wyoming	611,480	84,384	6,260	16	5	6,281
Yates	106,382	14,681	1,086	3	0.9	1,089
<b>Finger Lakes NY Total</b>	<b>10,300,516</b>	<b>1,421,471</b>	<b>105,151</b>	<b>264</b>	<b>90</b>	<b>105,505</b>

Notes:

1. Diesel consumption based on NYSERDA Study of diesel consumption by rail systems in New York State in 2002. Fuel consumption data allocated spatially to counties by location of rail lines.
2. GHG emissions calculated by applying EPA emission factors to diesel consumption.

County	Annual Coal Consumption <sup>1</sup> (short tons/yr)	Annual Coal Consumption <sup>1</sup> (MMBTu/yr)	Direct GHG Emissions from Coal Train Systems <sup>2</sup> (metric tons CO <sub>2</sub> e/yr)			
			CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Wyoming	11	280	7	0.02	0.006	7
<b>Finger Lakes NY Total</b>	<b>11</b>	<b>280</b>	<b>7</b>	<b>0.02</b>	<b>0.006</b>	<b>7</b>

Notes:

1. Coal consumption estimated from train system use.
2. GHG emissions calculated by applying EPA emission factors to coal consumption.

County	GHG Emissions from All Train Systems (metric tons CO <sub>2</sub> e/yr)			
	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Genesee	27,397	69	23	27,489
Livingston	2,689	7	2	2,698
Monroe	37,921	95	32	38,049
Ontario	1,033	3	0.9	1,036
Orleans	183	0.5	0.2	184
Seneca	594	1	0.5	596
Wayne	27,988	70	24	28,083
Wyoming	6,267	16	5	6,288
Yates	1,086	3	0.9	1,089
<b>Finger Lakes NY Total</b>	<b>105,158</b>	<b>264</b>	<b>90</b>	<b>105,512</b>

Power/Fuel Type	Finger Lakes NY Annual Energy Consumption (MMBtu/yr)
Diesel	1,421,471
Coal	280
Electric	0
<b>Total</b>	<b>1,421,751</b>

Notes:

1. State in 2002.
2. Energy consumption for electrical systems calculated by unit conversion.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Rail - 2013\_1\_3.xlsx

Date:

1/4/2013

**Table 1**  
**GHG Emission Summary**  
**Transportation: Commercial Marine Vessels**  
**Finger Lakes New York Region**

Fuel Type	County	Annual Fuel Consumption <sup>1</sup> (gal/yr)	Annual Fuel Consumption <sup>1</sup> (MMBtu/yr)	GHG Emissions <sup>2,3</sup> (metric tons CO <sub>2</sub> e/yr)			
				CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Diesel	Genesee	0	0	0	0	0	0
	Livingston	0	0	0	0	0	0
	Monroe	0	0	0	0	0	0
	Ontario	0	0	0	0	0	0
	Orleans	0	0	0	0	0	0
	Seneca	0	0	0	0	0	0
	Wayne	0	0	0	0	0	0
	Wyoming	0	0	0	0	0	0
	Yates	0	0	0	0	0	0
	<b>Finger Lakes NY Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Residual Fuel Oil	Genesee	0	0	0	0	0	0
	Livingston	0	0	0	0	0	0
	Monroe	818,129	122,719	9,216	23	8	9,247
	Ontario	0	0	0	0	0	0
	Orleans	635,878	95,382	7,163	18	6	7,187
	Seneca	0	0	0	0	0	0
	Wayne	0	0	0	0	0	0
	Wyoming	0	0	0	0	0	0
	Yates	0	0	0	0	0	0
	<b>Finger Lakes NY Total</b>	<b>1,454,007</b>	<b>218,101</b>	<b>16,379</b>	<b>41</b>	<b>14</b>	<b>16,434</b>
All Fuel Types	Genesee	0	0	0	0	0	0
	Livingston	0	0	0	0	0	0
	Monroe	818,129	122,719	9,216	23	8	9,247
	Ontario	0	0	0	0	0	0
	Orleans	635,878	95,382	7,163	18	6	7,187
	Seneca	0	0	0	0	0	0
	Wayne	0	0	0	0	0	0
	Wyoming	0	0	0	0	0	0
	Yates	0	0	0	0	0	0
	<b>Finger Lakes NY Total</b>	<b>1,454,007</b>	<b>218,101</b>	<b>16,379</b>	<b>41</b>	<b>14</b>	<b>16,434</b>

Notes:

1. Fuel consumption estimated by dividing annual CO<sub>2</sub> emissions by corresponding fuel heat value and emission-factor-energy.
2. CO<sub>2</sub> emissions calculated by multiplying EPA estimated annual SO<sub>2</sub> emission rate by ratio of CO<sub>2</sub> to SO<sub>2</sub> emissions for applicable fuel.
3. N<sub>2</sub>O and CH<sub>4</sub> emissions estimated using using EPA emission factors and fuel consumption estimates.

Fuel Type	Finger Lakes NY Annual Energy Consumption <sup>1</sup> (MMBtu/yr)
Diesel	0
Residual Fuel Oil	218,101
<b>Total</b>	<b>218,101</b>

Notes:

1. Annual energy consumption is based on projected fuel consumption.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Com Marine - 2013\_1\_3.xlsx

Date:

1/4/2013

11/10/2012

**Table 1  
Greenhouse Gas Emission Inventory Summary  
Transportation: Aircraft  
Finger Lakes New York Region**

County	Annual Jet Fuel Consumption <sup>1</sup> (gal/yr)	Annual Jet Fuel Consumption <sup>1</sup> (MMBtu/yr)	GHG Emissions <sup>2,3</sup> (metric tons CO <sub>2</sub> e/yr)			
			CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Genesee	193,221	26,085	1,854	4.9	2	1,860
Livingston	129,800	17,523	1,248	3	1	1,252
Monroe	4,286,001	578,610	41,151	108	36	41,295
Ontario	47,780	6,450	457	1	0.4	459
Orleans	14,459	1,952	138	0.4	0.1	138
Seneca	27,932	3,771	266	0.7	0.2	267
Wayne	54,549	7,364	524	1	0.5	526
Wyoming	35,818	4,835	342	0.9	0.3	343
Yates	101,868	13,752	978	3	0.9	981
<b>Finger Lakes NY Total</b>	<b>4,891,428</b>	<b>660,343</b>	<b>46,958</b>	<b>123</b>	<b>42</b>	<b>47,122</b>

Notes:

1. Jet fuel consumption estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
2. CO<sub>2</sub> emissions estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
3. N<sub>2</sub>O and CH<sub>4</sub> emissions estimated using EPA emission factors and jet fuel consumption estimates.

Fuel Type	Western NY Annual Energy Consumption <sup>1</sup> (MMBtu/yr)
Kerosene Type Jet Fuel	660,343

Notes:

1. Annual energy consumption is based on projected fuel consumption as estimated using FAA's EDMS model.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Aircraft - 2013\_1\_3.xlsx

Date:

1/4/2013

**Table 1**  
**GHG Emissions Summary**  
**Transportation: Non-Road Equipment**  
**Finger Lakes New York Region**

County	Energy Consumption (MMBtu/yr)	GHG Emissions <sup>1,2</sup> (metric tons CO <sub>2</sub> e/yr)			
		CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
Genesee	651,759	46,746	120	41	46,907
Livingston	624,813	44,944	116	39	45,099
Monroe	5,108,287	360,290	938	319	361,546
Ontario	1,105,904	79,050	204	69	79,324
Orleans	512,632	36,741	95	32	36,869
Seneca	779,111	55,695	145	49	55,889
Wayne	897,883	63,902	166	56	64,124
Wyoming	592,030	42,496	110	37	42,643
Yates	562,680	40,072	104	35	40,212
<b>Finger Lakes NY Total</b>	<b>10,835,100</b>	<b>769,937</b>	<b>1,998</b>	<b>678</b>	<b>772,613</b>

Notes:

1. CO<sub>2</sub> emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
2. N<sub>2</sub>O and CH<sub>4</sub> emissions based the use of EPA emission factors for N<sub>2</sub>O and CH<sub>4</sub> based on fuel combustion. Fuel consumption estimated with reserve application of CO<sub>2</sub> emission factors (for fuel) to CO<sub>2</sub> emissions.

Fuel Type	Finger Lakes NY Annual Fuel Consumption <sup>1</sup>		Finger Lakes NY GHG Emissions <sup>2,3</sup> (metric tons CO <sub>2</sub> e/yr)			
	(scf/yr)	(gal/yr)	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	Total
CNG	106,246,482	-	5,791	3	2	<b>5,797</b>
Diesel	-	39,738,943	405,595	1,020	345	<b>406,960</b>
Gasoline	-	31,398,706	275,602	730	247	<b>276,579</b>
LPG	-	14,315,938	82,949	245	83	<b>83,277</b>
<b>TOTAL</b>	-	-	<b>769,937</b>	<b>1,998</b>	<b>678</b>	<b>772,613</b>

Notes:

1. Fuel consumption estimated with reserve application of CO<sub>2</sub> emission factors (for fuel) to CO<sub>2</sub> emissions.
2. CO<sub>2</sub> emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
3. N<sub>2</sub>O and CH<sub>4</sub> emissions based the use of EPA emission factors for N<sub>2</sub>O and CH<sub>4</sub> based on fuel combustion.

Fuel Type	Finger Lakes NY Annual Energy Consumption (MMBtu/yr)
CNG	109,221
Diesel	5,483,974
Gasoline	3,924,838
LPG	1,317,066
<b>Total</b>	<b>10,835,100</b>

Notes:

1. Annual energy consumption is based on projected fuel consumption calculated from NYSDEC CO<sub>2</sub> emission estimates.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Nonroad - 2013\_1\_3.xlsx

Date:

1/4/2013

Waste Disposal Emissions

	CO2e (Metric Tons), 2010 <sup>1,2</sup>							
	Regional average Municipal Solid Waste (MSW) generated per capita (short tons)	Total MSW (Short tons) <sup>1</sup>	Population	Nonbiogenic CO2	CH <sub>4</sub>	N <sub>2</sub> O	Total non biogenic	CO2 biogenic <sup>5</sup>
<b>Finger Lakes</b>								
<b>Direct Reported Emissions, waste received<sup>2</sup></b>								
		<b>3,089,899</b>	<b>1,217,156</b>	<b>934</b>	<b>595,749</b>	<b>1</b>	<b>596,684</b>	<b>81,792</b>
Genesee		729,041	60,079	738	283,012	1	283,751	81,792
Livingston		-	65,393	-	-	-	-	-
Monroe		-	744,344	-	-	-	-	-
Ontario		-	107,931	-	-	-	-	-
Orleans		742,837	42,883	191	134,598	-	134,789	-
Seneca		-	35,251	-	-	-	-	-
Wayne		1,618,021	93,772	5	178,139	-	178,143	-
Wyoming		-	42,155	-	-	-	-	-
Yates		-	25,348	-	-	-	-	-
<b>Indirect Emissions, based on average emissions per ton received, waste generated<sup>3</sup></b>								
	<b>0.83</b>	<b>1,016,144</b>	<b>1,217,156</b>	<b>0</b>	<b>326,347</b>	<b>0</b>	<b>326,347</b>	<b>201,744</b>
Genesee <sup>4</sup>	0.49	29,280.68	60,079	0	9,404	0	9,404	9,958
Livingston <sup>4</sup>	0.56	36,441.50	65,393	0	11,704	0	11,704	10,839
Monroe <sup>4</sup>	0.87	647,758.26	744,344	0	208,035	0	208,035	123,375
Ontario <sup>4</sup>	1.07	115,586.13	107,931	0	37,122	0	37,122	17,890
Orleans <sup>4</sup>	0.50	21,593.23	42,883	0	6,935	0	6,935	7,108
Seneca <sup>4</sup>	0.60	21,095.33	35,251	0	6,775	0	6,775	5,843
Wayne <sup>4</sup>	1.16	108,416.99	93,772	0	34,819	0	34,819	15,543
Wyoming <sup>4</sup>	0.48	20,081.50	42,155	0	6,449	0	6,449	6,987
Yates <sup>4</sup>	0.63	15,890.04	25,348	0	5,103	0	5,103	4,201

Notes

1. 2010\_DEC\_Landfill\_and\_WTE\_data.xlsx , summary of DEC reported data provided by NYSERDA to NYS Protocol Working Group, 2012
2. Emissions as reported in 2010 EPA MRR GHG Reporting Data
3. Emissions calculated using California Air Resources Board(CARB) First Order Decay (FOD) Model, based on total waste generated in the region, NY default waste characteristics, and 50 year lifespan
4. Regional Emissions allocated to counties based on waste generated within the county.
5. Biogenic emissions include CO2 emissions from electric generation as calculated by CARB FOD Model or as Reported for EPA MRR

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Waste 1\_4 BOD method.xlsx

Date:

1/4/2013

**Wastewater Treatment Facility Emissions: Direct**

	Wastewater volume flow (MGD) <sup>1</sup>	Number of Plants <sup>1</sup>	Population <sup>2</sup>	CO <sub>2</sub> e (Metric Tons) <sup>2</sup>			
				CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e <sup>3</sup>
<b>New York State<sup>2</sup></b>	<b>3,693.65</b>	<b>610</b>	<b>19,378,102</b>	<b>-</b>	<b>1,310,000</b>	<b>580,000</b>	<b>1,900,000</b>
<b>Finger Lakes<sup>2</sup></b>	<b>232.36</b>	<b>66</b>	<b>1,217,156</b>	<b>-</b>	<b>80,000</b>	<b>40,000</b>	<b>120,000</b>
Genesee	9.02	9	60,079		3,107	1,553	4,660
Livingston	6.58	8	65,393		2,267	1,133	3,400
Monroe	166.86	7	744,344		57,450	28,725	86,175
Ontario	15.73	11	107,931		5,415	2,708	8,123
Orleans	12.900	4	42,883		4,441	2,221	6,662
Seneca	5.782	6	35,251		1,991	995	2,986
Wayne	9.309	15	93,772		3,205	1,603	4,808
Wyoming	4.070	4	42,155		1,401	701	2,102
Yates	2.100	2	25,348		723	362	1,085

<sup>1</sup>Descriptive Data of Municipal Wastewater Treatment Plants in New York State, NYSDEC, January 2004

<sup>2</sup>State and Regional Totals calculated using the EPA State Inventory Tool, Wastewater module, for Municipal wastewater only, using NYS defaults, 2010 population from 2010 US Census.

<sup>3</sup>State and Regional totals reported as calculated by using the EPA State Inventory Tool--may not be exact sum of other rows due to rounding.

<sup>4</sup>County totals calculated based on ratio of 2004 County wastewater volumes and EPA State Inventory Tool results for the region. Significant figures of SIT (million MT, to 100ths) do not provide totals for the smaller population numbers.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Waste\_water11\_12.xlsx

Date:

11/12/2012

**Manure Management Emissions**

			CO2e (Metric Tons) 2			
	Population (# of animals) <sup>1</sup>	Number of Animal Farms <sup>1</sup>	CO2	CH4	N2O	Total CO2e
<b>New York State</b>						
<b>Finger Lakes</b>	<b>560,273</b>	<b>5,752</b>		<b>114,656</b>	<b>22,994</b>	<b>137,649</b>
Genesee	59,539	458		17,777	3,701	21,478
Livingston	62,502	729		17,637	3,674	21,311
Monroe	12,813	246		1,816	334	2,150
Ontario	52,031	696		15,804	3,269	19,073
Orleans	12,997	376		2,192	407	2,599
Seneca	75,979	617		8,986	1,353	10,340
Wayne	124,995	557		6,125	1,149	7,275
Wyoming	109,501	944		34,551	7,221	41,772
Yates	49,916	1,129		9,766	1,885	11,651

Note

1. The animal and farm number data is from 2007 USDA Agricultural Census.
- 2.CO2e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance and 2006 IPCC Guidelines for National Greenhouse Gas Inventories .

**Enteric Fermentation Emissions**

			CO2e (Metric Tons) 2			
	Population (# of animals) <sup>1</sup>	Number of Animal Farms <sup>1</sup>	CO2	CH4	N2O	Total CO2e
<b>New York State</b>						
<b>Finger Lakes</b>	<b>560,273</b>	<b>5,752</b>		<b>713,507</b>		<b>713,507</b>
Genesee	59,539	458		107,337		107,337
Livingston	62,502	729		105,152		105,152
Monroe	12,813	246		14,562		14,562
Ontario	52,031	696		97,147		97,147
Orleans	12,997	376		17,831		17,831
Seneca	75,979	617		64,553		64,553
Wayne	124,995	557		39,678		39,678
Wyoming	109,501	944		202,771		202,771
Yates	49,916	1,129		64,475		64,475

Notes

1. The animal and farm number data is from 2007 USDA Agricultural Census.
- 2.CO2e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance.

## Agricultural Soils Emissions

	Cropland Harvested (acres) <sup>1</sup>	CO <sub>2</sub> e (Metric Tons) <sup>2</sup>			
		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e
<b>New York State</b>					
<b>Finger Lakes</b>	<b>1,012,623</b>			<b>61,934</b>	<b>61,934</b>
Genesee	132,333			8,082	8,082
Livingston	146,753			8,966	8,966
Monroe	93,282			5,697	5,697
Ontario	137,752			8,421	8,421
Orleans	91,599			5,616	5,616
Seneca	92,783			5,712	5,712
Wayne	103,564			6,333	6,333
Wyoming	142,442			8,699	8,699
Yates	72,115			4,407	4,407

### Notes

1. The cropland harvested data for synthetic fertilizer calculation is from 2007 US Agricultural Census. Assumed most of fertilizer are used on harvested cropland.

2. CO<sub>2</sub>e calculation is from organic fertilizer N<sub>2</sub>O emission with data sources from NYSDEC7/23/2012 and synthetic fertilizer N<sub>2</sub>O emission with data sources from 2007 US Agricultural Census and EPA Commercial Fertilizer Purchased ([http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/dataset\\_commercial.cfm](http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/dataset_commercial.cfm)).

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

*FL\_Agriculture\_110512.xlsx*

Date:

*11/5/12*



## Carbon Sequestration in Forests

	Forest Land (Acres) <sup>1</sup>	Forest Land (km <sup>2</sup> )	Total Carbon Sequestration (metric tons C) <sup>2</sup>	Total Carbon Sequestration (metric tons CO <sub>2</sub> )
<b>New York State</b>				
<b>Finger Lakes</b>	<b>1,050,475</b>	<b>4,251</b>	<b>47,169,176</b>	<b>173,110,876</b>
Genesee	107,901	437	5,046,674	18,521,295
Livingston	132,965	538	6,043,567	22,179,890
Monroe	116,967	473	5,313,551	19,500,731
Ontario	187,560	759	8,099,906	29,726,656
Orleans	62,351	252	2,816,615	10,336,977
Seneca	50,653	205	2,104,790	7,724,579
Wayne	136,240	551	5,512,768	20,231,860
Wyoming	157,285	637	7,889,264	28,953,598
Yates	98,553	399	4,342,041	15,935,289

### Notes

1. The forest land data is from Forest Inventory Data Online (FIDO) FIA Standard Reports, New York Current Area, 2010.
2. The total carbon sequestration is calculated based on the carbon stock factor from COLE 1605 (b) Report for New York, July 24, 2012 and the forest land.

## Carbon Sequestration in Urban Forests

	Urban Land Area (km <sup>2</sup> ) <sup>1</sup>	Tree Canopy Cover (%) <sup>2</sup>	Total Carbon Sequestration (metric tons C) <sup>3</sup>	Total Carbon Sequestration (metric tons CO <sub>2</sub> )
<b>New York State</b>				
<b>Finger Lakes</b>	<b>1,079</b>		<b>68,447</b>	<b>251,202</b>
Genesee	35	23%	1,759	6,456
Livingston	48	23%	2,463	9,040
Monroe	741	31%	50,341	184,750
Ontario	83	15%	2,823	10,361
Orleans	31	30%	2,092	7,679
Seneca	23	25%	1,309	4,805
Wayne	78	30%	5,223	19,169
Wyoming	33	29%	2,173	7,974
Yates	7	18%	264	969

### Notes

1. The urban land area data is from 2000 US Census.
2. The tree canopy cover percentage data is from provided by Eric J. Greenfield, US Department of Agriculture Forest Service, Syracuse, NY on August 1, 2012.
3. The total carbon sequestration is calculated based on the urban land area, tree canopy coverage and the national average net sequestration rate.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

*FL\_Forest\_101012.xlsx*

Date:

10/10/12

**REDC Emissions By Source and Sector**  
**Year: 2010**

REDC / County Name **QAQC**

**Color Code**

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
<b>Built Environment</b>									
<b>Residential Energy Consumption</b>									
FL Electricity Consumption	Electricity / Steam	-	1,003,997	0	-	Yes	Consumption	MMBTU	15,093,554
FL Direct Residential Fuel Consumption	Natural Gas	2,457,416	-	0	-	Yes	Consumption	MMBTU	46,303,439
FL Direct Residential Fuel Consumption	Propane / LPG	205,344	-	0	-	Yes	Consumption	MMBTU	3,247,626
FL Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	-	0	-	Yes	Consumption	MMBTU	2,912,087
FL Direct Residential Fuel Consumption	Wood	10,565	-	0	502,028	Yes	Consumption	MMBTU	5,352,108
<b>Commercial Energy Consumption</b>									
FL Electricity Consumption	Electricity / Steam	-	964,950	0	-	Yes	Consumption	MMBTU	14,506,538
FL Commercial Direct Fuel Consumption	Natural Gas	1,592,903	-	0	-	Yes	Consumption	MMBTU	30,013,998
FL Commercial Direct Fuel Consumption	Propane / LPG	52,185	-	0	-	Yes	Consumption	MMBTU	825,329
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	-	0	-	Yes	Consumption	MMBTU	1,909,428
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-	-	0	-	Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	1,275	-	0	-	Yes	Consumption	MMBTU	12,404
FL Commercial Direct Fuel Consumption	Wood	2,269	-	0	107,827	Yes	Consumption	MMBTU	1,149,538
<b>Industrial Energy Consumption</b>									
FL Electricity Consumption	Electricity / Steam	-	569,720	0	-	Yes	Consumption	MMBTU	8,564,870
FL Industrial Title V Consumption	Natural Gas	280,745	-	0	-	Yes	Consumption	MMBTU	5,109,365
FL Industrial Title V Consumption	Propane / LPG	156	-	0	-	Yes	Consumption	MMBTU	2,459
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926	-	0	-	Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903	-	0	-	Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	196,030	-	0	-	Yes	Consumption	MMBTU	2,082,610
FL Industrial Title V Consumption	Wood	-	-	0	-	Yes	Consumption	MMBTU	-

<b>Energy Generation and Supply</b>	<b>Energy Generation and Supply</b>	-	-	0	-				
FL Elec Generation GHG Analysis	Coal	1,535,272	-	0	-	No	Generation	MMBTU	15,706,588
FL Elec Generation GHG Analysis	Nuclear	-	-	0	-	No	Generation	MMBTU	51,754,929
FL Elec Generation GHG Analysis	Natural Gas	92,952	-	0	-	No	Generation	MMBTU	1,751,439
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	2,227	-	0	-	No	Generation	MMBTU	30,014
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417	-	0	-	No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-	-	0	-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	854	-	0	169,315	No	MSW Combusted	MMBTU	3,251,672
FL Elec Generation GHG Analysis	Other Wind and Hydro	-	-	0	-				7,331,091
FL Electricity Consumption	Electricity T/D Losses	-	147,750	0	-	Yes	Losses	MMBTU	2,221,201
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	615,180	-	0	-	Yes	Losses	MMBTU	-
FL Electricity Consumption	Use of SF6 in the Utility Industry	33,983	-	0	-	Yes	Consumption	MMBTU	-
<b>Industrial Processes</b>	<b>Industrial Processes</b>	-	-	0	-				-
Not Reported	Cement Production	-	-	0	-	Yes			-
Not Reported	Iron and Steel Production	-	-	0	-	Yes			-
Not Reported	Ferroalloy Production	-	-	0	-	Yes			-
Not Reported	Aluminum Production	-	-	0	-	Yes			-
Not Reported	Paper and Pulp	-	-	0	-	Yes			-
Not Reported	Limestone Use	-	-	0	-	Yes			-
Not Reported	Soda Ash Use	-	-	0	-	Yes			-
Not Reported	Semi-Conductor Manufacturing	-	-	0	-	Yes			-
FL Industrial Sources	Glass Production	37,292	-	0	-	Yes			-
Not Reported	Chemical Manufacturing	-	-	0	-	Yes			-
<b>Product Use (Ozone Depleting Substances)</b>	<b>Product Use (Ozone Depleting Substances)</b>	-	-	0	-				-
FL Industrial Sources	All Refrigerants- except SF6	278,673	-	0	-	Yes			-
<b>Transportation Energy</b>	<b>On-road</b>	-	-	0	-				-
FL Emission Summary - Onroad	Motor Gasoline (E-10)	4,273,549	-	0	310,163	Yes	Consumption	MMBTU	65,172,504
FL Emission Summary - Onroad	Diesel	771,313	-	0	-	Yes	Consumption	MMBTU	10,530,485
Not Reported	Ethanol (E-85)	-	-	0	-	No	Consumption	MMBTU	-
Not Reported	Biodiesel	-	-	0	-	No	Consumption	MMBTU	-
Not Reported	Electricity Consumption	-	-	0	-	No	Consumption	MMBTU	-
	<b>Rail</b>	-	-	0	-				-
FL Emission Summary - Rail	Diesel	105,505	-	0	-	Yes	Consumption	MMBTU	1,421,471
FL Emission Summary - Rail	Coal Consumption	7	-	0	-	Yes	Consumption	MMBTU	280
FL Emission Summary - Rail	Electric	-	-	0	-				-



Protocol Compliance Report			
Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence		Brief Description of Method and Issues
	Yes	No	
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated: none to report
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included

(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, Ch4 and N2 Emissions required to be reported to Scope 1	X	EIA 923 database used: none to report
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on <a href="http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html">http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html</a> . All Ch4 and N2O shall be reported under required Scope 1.	X	EIA 923 database used
(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using regional EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X	Alternative method as stated
(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.		Alternative method as stated
(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSERDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X	Based on conversations with P Groth and J Yeinger, used national 2010 emission inventory total (alternative method)
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	As stated
	X	Nothing to report
(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X	As stated
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X	As stated
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X	As stated
Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported as Scope 1, and 85% as ethanol to be reported as optional biogenic.	X	Not available
Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X	Not available
Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X	Not available
Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nyserda 2002 estimates of Diesel consumption by county directly.	X	As stated
Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X	As stated Nothing to report

Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wiggio). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X X X	As stated, except recreational boating included in non-road data As stated, except recreational boating included in non-road data As stated, except recreational boating included in non-road data
Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDMS, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X	Scope 1 option, using EDMS. Totals are also included in GHG Inventory reporting as part of Sustainability Plan
Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wiggio) for all categories except small marine.	X	As stated, but includes recreational marine
This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wiggio). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint.	X	Scope 1 reported as actual 2010 waste facility emissions reported (EPA MRR). Scope 3 calculated and reported as stated
Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on <a href="http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html">http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html</a> . All Ch4 and N2O shall be reported under required Scope 1	X	None Reported
Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.	X	Based on conversations with P. Groth and J. Yeinger, used State Inventory Tool and regional population, allocated to county by population
(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X X X X	As stated As stated As stated None reported
Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator. (NCASI 2008) Use the	X	As stated
	X	Total reported for information, change is not relevant to WG discussions

Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur in boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management.

Value above MINUS and reported optional forestry sinks.

**REDC GHG Emissions Roll Up Report**

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Finger Lakes**

**Color Code**

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count  
 Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
<b>Built Environment</b>	<b>Residential Energy Consumption</b>							
	Electricity / Steam	1,003,997	999,114	672	4,211			
	Natural Gas	2,457,416	2,455,008	972	1,435			
	Propane / LPG	205,344	204,535	205	604			
	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	215,378	183	542			
	Wood	10,565	-	3,597	6,968			
	<b>Commercial Energy Consumption</b>							
	Electricity / Steam	964,950	960,257	646	4,047			
	Natural Gas	1,592,903	1,591,342	630	930			
	Propane / LPG	52,185	51,979	52	154			
	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	141,221	120	355			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	1,275	1,266	3	6			
	Wood	2,269	-	772	1,497			
	<b>Industrial Energy Consumption</b>							
	Electricity / Steam	569,720	566,949	381	2,390			
	Natural Gas	280,745	280,470	111	164			
	Propane / LPG	156	155	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2			
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29			
	Coal	196,030	194,516	481	1,033			
	Wood	-	-	-	-			
	<b>Energy Generation and Supply</b>							
	Electricity T/D Losses	147,750	147,032	99	620			
	Natural Gas T/D Losses	615,180	-	615,180	-			
	Use of SF6 in the Utility Industry	33,983	-	-	-			33,983
	<b>Industrial Processes</b>							
	Cement Production	-	-	-	-			
	Glass Production	37,292	-	-	-			
	Iron and Steel Production	-	-	-	-			
	Ferrous Production	-	-	-	-			
	Aluminum Production	-	-	-	-			
	Paper and Pulp	-	-	-	-			
Limestone Use	-	-	-	-				
Soda Ash Use	-	-	-	-				
Semi-Conductor Manufacturing	-	-	-	-				
<b>Product Use (ODS Substitutes)</b>								
All Refrigerants- except utility SF6	278,673	-	-	-			278,673	
<b>Transportation Energy</b>								
<b>On-road ALL (Total reflects subtraction of ethanol)</b>	-	-	-	-				
Motor Gasoline (E-10)	4,273,549	4,258,449	11,280	3,821				
Diesel	771,313	768,758	1,899	655				
Ethanol	-	-	-	-				
Biodiesel	-	-	-	-				
<b>Rail</b>								
Diesel	105,505	105,151	264	90				
Coal	7	7	0	0				
<b>Marine</b>								
Gasoline	-	-	-	-				
Distillate	-	-	-	-				
Residual Fuel Oil	16,434	16,379	41	14				
<b>Off-road Mobile</b>								
All Fuels (Diesel and Gasoline)	772,613	769,937	1,998	678				
<b>Waste Management</b>								
<b>Solid Waste Management</b>								
Landfill Methane from FOD of waste generated	326,347	-	326,347	-				
MSW incineration (non grid connected)	-	-	-	-				
<b>Sewage Treatment</b>								
Central WWTPs and Septic Systems (Total reflects rounding)	120,000	-	80,000	40,000				
<b>Agriculture</b>								
<b>Livestock</b>								
Enteric Fermentation	713,507	-	713,507	-				
Manure management	137,649	-	114,656	22,994				
<b>Crop Production and Soil Management</b>								
Use of Fertilizer	61,934	-	-	61,934				
Crop Residue Incineration	-	-	-	-				
<b>Grand Totals</b>	<b>16,119,918</b>	<b>13,740,690</b>	<b>1,874,107</b>	<b>155,173</b>	<b>-</b>	<b>278,673</b>	<b>33,983</b>	

Note: Red text represents text added to original template to provide additional information or clarification